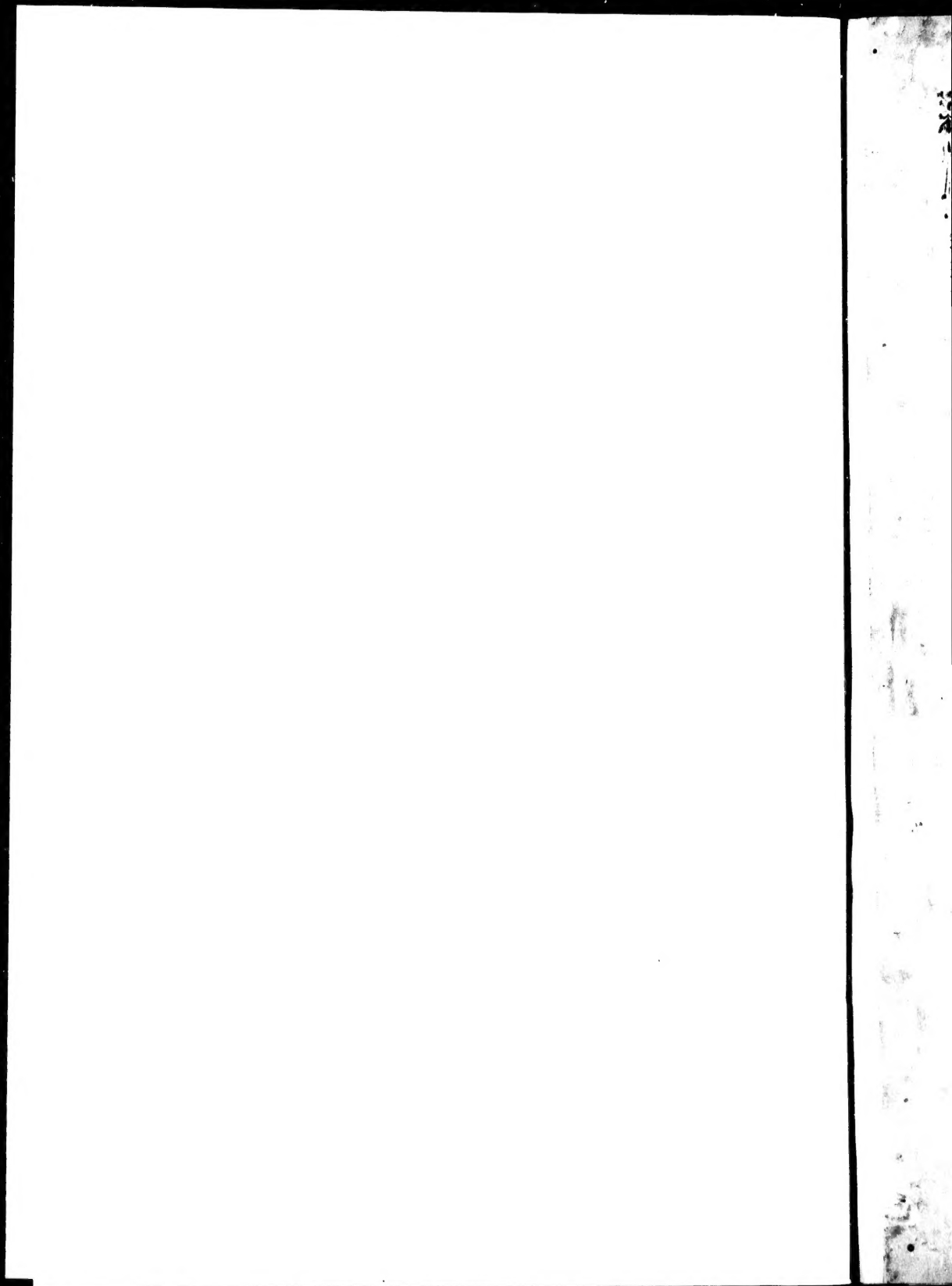




REPORTS
THE SEA AND RIVER
FISHERIES
OF
NEW BRUNSWICK.

BY
M. H. PERLEY, ESQUIRE.

HER MAJESTY'S EMIGRATION OFFICER AT SAINT JOHN, NEW BRUNSWICK

(SECOND EDITION.)



These Reports were separately laid before the Legislature by command of His Excellency the Lieutenant Governor, in 1849, 1850, and 1851, and were then printed by order of the House of Assembly. Now, reprinted collectively, by order of His Excellency in Council.

FREDERICTON:

J. SIMPSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY.

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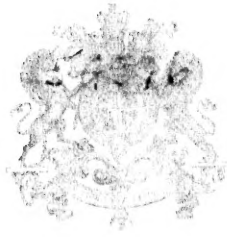
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1892

GOVERNMENT EMIGRATION OFFICE,
Saint John, New Brunswick,
5th January, 1852.

The three Reports herein contained, were separately laid before the Legislature of this Province, in 1849, 1850, and 1851, by command of His Excellency the Lieutenant Governor, and were severally printed, at those periods, by order of the House of Assembly. Copies of these Reports having become scarce, they are now reprinted collectively, by order of His Excellency the Lieutenant Governor in Council.

The undersigned has availed himself of this opportunity to correct and extend the Catalogue of Fishes. Seven species not mentioned in the first Catalogue, have been added to the list in the present edition; and the descriptions generally have been enlarged and amended. The Catalogue is not yet, however, so complete or satisfactory as the undersigned could wish; and he still respectfully solicits information from all who may be willing to assist in rendering it more perfect.

The various letters and documents appended to the several Reports when they were first printed, will be found together in the Appendix to this edition. To these have been added some recent Reports and other documents, which will be found not only interesting, but exceedingly useful.

M. H. PERLEY.
H. M. Emigration Officer.

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REPORT

ON THE

FISHERIES OF THE GULF OF SAINT LAWRENCE.

Laid before the House of Assembly by Command of His Excellency the Lieutenant Governor, and ordered to be Printed 8th March 1849.

THERE is probably no part of the world in which such extensive and valuable Fisheries are to be found, as within the Gulf of Saint Lawrence. Nature has bountifully provided within its waters, the utmost abundance of those fishes which are of the greatest importance to man, as affording not only nutritious and wholesome food, but also the means of profitable employment.

These fisheries may be prosecuted as well in the open waters of the Gulf, as within every bay, harbour, creek, cove, and inlet in connection with it. Whether on the bleak and sterile coast of Labrador; or on the western coasts of Newfoundland and Cape Breton; or along the eastern shores of Nova Scotia and New Brunswick; or within the Bay of Chaleur; or around Prince Edward Island, Anticosti, or the Magdalen Islands, the fisherman may pursue his labours with nearly equal chances of success, and the full prospect of securing an ample reward for his toil.

With such valuable and unlimited fisheries in close proximity to these Colonies, and as it may be said at the very doors of the inhabitants, it is no less strange than true, that they are prosecuted to the greatest extent, and with most profit, by citizens of France, and of the United States.

The French exercise an almost exclusive right of fishing upon the western coast of Newfoundland, the fertility and great mineral wealth of which have only recently become known, and are not yet fully appreciated.

From seven to eight hundred sail of American fishing vessels enter the Gulf of Saint Lawrence annually; and scattering over the whole of its wide extent, with little heed of the limits to which they are restricted by Treaty, pursue their business unmolested, and but rarely leave their stations without full and valuable fares.

The Jersey merchants also prosecute these fisheries with great zeal and assiduity, and, as it is believed, with much profit. They have permanent establishments and fishing stations in Gaspé, Labrador, and Newfoundland, and three or more establishments in New Brunswick; but they by no means confine themselves to any particular locality. They employ upwards of one hundred vessels almost exclusively in carrying the rich products of the deep to various foreign markets, besides the smaller craft required upon the coast. Two of the leading Jersey firms, Messrs. Robin and Co. and Nicolle Brothers, are supposed respectively to afford employment, directly or indirectly, to nearly one thousand persons.

The inhabitants of those shores of Cape Breton and Nova Scotia which are within the Gulf, pursue the fisheries in their immediate

neighbourhood to a moderate extent; and a few of their vessels visit the Magdalen Islands, and the Labrador coast, during the season. The people of Prince Edward Island, who are favourably placed for securing a goodly portion of the riches of the sea, make still more limited efforts; but their efforts can scarcely be described as more limited, or more feeble, than those of the people of New Brunswick, who dwell upon its shores, from Baie Verte to the western extremity of the Bay of Chaleur—those shores commanding as great an extent and variety of fishing ground, and as abundant supplies of valuable fish of every description, as can be found in any other part of the unrivalled Gulf of Saint Lawrence, while they possess equal, and perhaps superior, facilities for prosecuting its fisheries, both extensively and profitably.

The most valuable Fisheries of the Gulf are those for Herring, Cod, and Mackerel. But before entering upon the question of their encouragement and extension, by increased facilities of communication, it will be proper to give some description of each. With this view they will be taken up in the order of the fishing season; after which, the secondary fisheries of the Gulf will be briefly noticed.

THE HERRING.

The common Herrings (*clupea elongata* of DeKay and Storer,) appear in the Gulf of Saint Lawrence at the end of April, or early in May, and the fishing continues until about 10th June, when they retire to deep water, having deposited their spawn. These "spring herrings," as they are termed, are taken in "set nets" along the whole eastern shore of New Brunswick, around Misco Island, and within the Bay of Chaleur. Being caught while in the very act of spawning, they are thin and poor, of little value as an article of food, whether fresh or salted. Another herring appears on the coast about the 20th August, and remains in-shore for a month; these are fat and in good condition, furnishing excellent food, and a valuable commodity for export. It is admitted, that when first caught, these "fall herrings" are fully equal in every respect to the best Scotch herrings; and if they were cured in the Dutch manner, this fishery, from the increased price and demand, would become one of the most important and valuable fisheries of the Gulf.

The herring is the animal delicacy of Holland, and there enjoys a very different reputation from that of the common salt herring of Britain or America; yet the fish of both Holland and Britain are the same, being caught on the same fishing grounds, and those of North America are in no respect inferior.

The Dutch mode of curing herrings is thus described by Mr. Chambers, in his "Tour in Holland in 1838 :"—

"Immediately on being caught, the herrings are bled, gutted, cleaned, salted, and barrelled. The bleeding is effected by cutting them across the back of the neck, and then hanging them up for a few seconds by the tail. By being thus relieved of the blood, the fish retain a certain sweetness of flavour, and delicacy of flesh which unbled herrings cannot possibly possess. The rapidity of the process of curing, must likewise aid in preserving the native delicacy of the

animal, for the herring lies salted in the barrel, in a very few minutes after it has been swimming in the water. I was assured that the superiority of the Dutch herrings is solely ascribable to this mode of curing."

The greater mercantile value of the Dutch herrings, on the Continent of Europe, being found to arise solely from this mode of curing, the Commissioners of the British Fisheries (in Scotland) were induced to devote great attention to it, and to urge its general adoption by every means in their power. Their officers and inspectors were directed to brand every barrel of herrings, cured according to the Dutch mode, with the figure of the Crown. In their official Report for 1844, the Commissioners state that—

"The unprecedented demand from the Continent for Crown brand herrings, is a sufficient proof of the care with which the integrity of the brand is preserved, as well as of the high value which is set upon it, in all the Continental markets. It was the strong conviction impressed upon the minds of the Commissioners, of the vital importance of preserving the integrity of the brand, which compelled them to exercise the painful duty of dismissing from the service, one of the Board's oldest officers. As he had branded a cargo of herrings, which afterwards went to Hamburg, where they were complained of, as having been found unworthy of the brand, the Board despatched the General Inspector of the East Coast to that place, in order that he might rigidly examine the contents of all the barrels; and on receiving an unfavourable report as to the result of his investigation, the officer was immediately dismissed. The effect of this prompt measure has been, to raise the character of the brand even higher in the estimation of the foreign fish merchants, to whom the circumstances were generally known. It is by the preservation of the purity of the official brand, that the produce of the British herring fishery is to be upheld in character abroad, and the demand for it largely extended in foreign markets."

As a proof of the gradually increasing confidence which the Crown brand received on the Continent, the Commissioners furnish a statement of the number of barrels exported to the Continent, during the preceding seven years, commencing with 57,388 barrels in 1837, and annually increasing to 181,583 barrels in 1843.

The Commissioners further say—

"An extensive export merchant has given it as his opinion, that if great care shall be continued in the selection, cure, and official inspection of the fish, the Continent of Europe would consume more British herrings than are now caught in our fisheries. Although they have to contend with all the disadvantages of a duty levied on them of ten shillings per barrel, British herrings are now brought into competition with Belgian fish in their own markets, and are annually diminishing the sale of Dutch herrings, by furnishing part of the supplies in markets formerly entirely dependant on them. By this means their price has been so reduced, that the number of "busses" fitted out for the deep-sea herring fishery, has been already considerably diminished."

In their Report for 1845, the Commissioners say—

"The increasing demand for British herrings of late years in Germany, arises from their moderate price, their careful selection, their superior cure and quality, and above all, from the security which dealers have in the official brands. The general stipulation between sellers and buyers is, to deliver and receive "Crown" and "full" branded herrings; and Mr. Miller, the Inspector of the East Coast, states in a Report made to the Board, of the information gathered by him during a short tour of inquiry made by order of the Commissioners, that he has the authority of a firm at Stettin for stating, that they sold about 40,000 barrels of Crown and full branded herrings last year, which were every where received without objection. The Inspector found British herrings at Berlin, Wittemberg, Leipsic, Frankfort, Cologne, and Brussels; and he saw several parcels in transit for more distant parts; the barrels were all Crown and full branded, and the fish were in fine condition, all well meriting the official

brand, and much approved by every one. He frequently inquired for Dutch herrings, and was uniformly shown British herrings as Dutch; and when he stated that they were British, they always insisted that they were Dutch, and they sold them as Dutch. So general is the use of British herrings on the Continent, that at Embden, where a few years ago fifty vessels were annually fitted out for the fishery, and a bounty of about £50 paid to each, the number of vessels was reduced to twelve, notwithstanding the continuation of that bounty. The Inspector General learned from the British Consul at Frankfort, that the navigation of the Rhine to Mayence, or Frankfort, has not been attempted by vessels laden with British herrings, in consequence of the jealousy of the Dutch, who throw insuperable obstacles in the way. Those herrings which have been sent thither, were transhipped at Rotterdam, when the charges levied in Holland, proved to be almost prohibitory. But as the prospect has arisen of immediate transport by a Canal connecting the Maine with the Danube, the Catholic countries of Bavaria, Hungary, and Austria, may be expected to afford new markets for our herrings, when the navigation of the Rhine may be attempted, or when the Railway from Antwerp to Cologne may be employed."

These extracts from official reports of the highest character, show most clearly the increased value which the Dutch mode of curing gives to British herrings; while the careful inspection, and the rigid measures adopted to preserve the integrity of the official brand, indicate in the strongest manner, the necessity for a similar inspection in New Brunswick. At present, from the entire absence of both skill and care, one of the most prolific and most valuable fisheries of the Gulf is rendered of the least value, and there is a complete waste of the bounties of Providence. Herrings are taken in the largest quantities, at a season when they are almost unfit to be eaten, because they are then caught with the greatest ease, and at least expense, and thousands of barrels are found of so little worth, that they are used to manure the land, or are left to rot upon the beaches.

In the autumn, when the herrings are in fine condition, they are taken during a few weeks only, because our fishermen are quite ignorant of the proper mode of curing to render them of value, and are not aware of the manner of using drift nets in deep water, which is so successfully practised by the herring fishers of Loch Fyne, and other noted stations in Scotland. By a similar manner of fishing, our fishermen could continue to catch herrings until the latest period of the fishing season, and those taken last would be of the finest quality.

The mode of fishing by drift nets, is thus described by Mr. Yarrell, in his admirable work on British Fishes:—

"The net is suspended by its upper edge, from the drift rope, by various shorter and smaller ropes, called buoy ropes; and considerable practical skill is required in the arrangement, that the net may hang with the meshes square, smooth, and even, in the water, and at the proper depth; for, according to the wind, tide, situation of their food, and other causes, the herrings swim at various distances below the surface."

"The size of the boat depends on the distance from shore at which the fishery is carried on; but whether in deep or in shallow water, the nets are only in actual use during the night. It is found that the fish strike the nets in much greater numbers when it is dark, than while it is light; the darkest nights, therefore, and those in which the surface of the water is ruffled by a breeze, are considered the most favourable. It is supposed that nets stretched in the day time alarm the fish, and cause them to quit the place where that practice is followed; it is, therefore, strictly forbidden."

Many thousands of barrels of the inferior "spring herrings," are taken at the Magdalen Islands every season, at the period when they approach the shores of those Islands to deposit their spawn. They are then very poor, and as but little care is taken in curing them, they often prove unfit for human food. They are caught in large seines, which require 15 or 20, and sometimes 40 men to manage them; and they are capable of enclosing, and bringing to the shore, from 200 to 1000 barrels at a single haul. When taken from these seines, it is the common practice to put them in the holds of the vessels, without washing, bleeding, or divesting them of their offal. They are salted "in bulk," as it is termed, and so they remain until the vessel arrives at the port whence she sailed, whether in the Colonies, or in the United States. They are then taken out and packed in barrels, sweltering in all their impurity; but whole cargoes frequently prove worthless as food, and are used for dressing grass land.

The number of barrels of herrings exported from the several Ports in the Counties of Restigouche, Gloucester, Northumberland, and Kent, during the last eight years, is thus stated:—

PORTS.	1841	1842	1843	1844	1845	1846	1847	1848	TOTALS.
Restigouche,	13	..	..	..	41	..	75	..	129
Bathurst,	..	..	..	20	52	..	..	280	352
Caraguet,	26	87	16	50	110	437	396	28	1150
Miramichi,	140	346	219	1080	3732	1192	1189	..	7898
Richibucto,	..	..	100	..	49	120	93	48	410
Totals,	179	433	335	1150	3984	1749	1753	356	9939

A large proportion of the fish exported from Miramichi, are a species of shad known as the gaspereau or alewife, (*alosa tyrannus*), which leave the sea, and ascend most of the rivers of the Gulf, to spawn. They are a thin, dry fish, much inferior to the sea herrings when salted; they find a market in the West Indies, as from their leanness, they are less liable to spoil in a hot climate than the fat herrings.

From the preceding table it appears clearly, that beyond furnishing some portion of the food of the inhabitants of the northern Counties of New Brunswick, the magnificent and unlimited herring fishery of the Gulf of Saint Lawrence and Bay of Chaleur, barely furnishes a sufficient quantity for export to prevent herrings being altogether omitted from the returns.

Of all the fisheries of the Gulf of Saint Lawrence, none could be increased to a greater extent, or would furnish a more valuable export, than the herring fishery, if placed under judicious regulations, and conducted with greater skill and care. The manner of taking herrings by drift-nets in deep water, requires to be generally known and adopted. At present, these excellent and truly valuable fish, which exist in the Gulf in myriads, during the latter part of the season, when they are in the finest condition, are only caught in sufficient quantities to furnish bait for cod, and a supply for domestic use.

The Dutch mode of curing also requires to be introduced, in order that the full flavour and fine quality of the fish may be preserved. If cured according to this approved mode, and properly packed in barrels of hard wood, bearing an official brand, (on which full reliance could be placed,) to denote the quality of the fish within, the herrings of the Gulf of Saint Lawrence would meet a ready market throughout the whole extent of Canada, and would find their way by inland navigation, and the great lakes, to the most western States of the Union, where there exists a large and constantly increasing demand. To other parts of the United States, and to foreign ports elsewhere, they might be profitably exported, if they could reach St. John, at all seasons, at a moderate charge.

The herring fishery of the Gulf would be more benefited than any other, by the construction of Railways, and the increased facilities for communication which they would afford. No other description of fish would probably furnish so large an amount of railway traffic, as, if once properly established, this fishery, which can now be scarcely said to exist, might be prosecuted to an almost unlimited extent.

THE COD.

The Cod Fishery commences from the 1st to the 10th June, and continues until the end of November; it may be prosecuted in every part of the Gulf of Saint Lawrence, to a greater or less extent.

Near the shores of New Brunswick, the best fishing grounds, or rather, those most frequented, are from Point Escuminac to Miscou, and thence along the Bay of Chaleur, to the Restigouche.

The inhabitants of the County of Gloucester prosecute the shore fishery, to a greater extent than any others on the New Brunswick coast. Their principal stations are Miscou, Shippagan, Caraquet, and Grande Ance. They go out in boats, from one to fifteen miles from the land, in the morning, and when at the longer distance, do not return until the evening of the following day. The boats have two fore-and-aft sails, and a jib; each boat is managed by two men, and frequently there is with them a boy. Each man has two lines, from 30 to 48 fathoms in length, and they are also furnished with mackerel lines, spare leads, and hooks. The boat has oars, an anchor and rope, compass, and small oven for cooking; the cost is about £18 for each boat, with complete outfit. The fishermen generally build their own boats during the winter; the keel is of birch; the timbers of cedar; and the planks of pine or cedar. A boat will last from six to eight years, and so will the sails also, with care.

The quintal, by which cod are always sold, is 112lb of dry fish. It is considered a good day's fishing, at Miscou, for one of these boats to take ten quintals of fish, which they frequently do. When first caught, 112 of the small fish, and 30 of the large size, are reckoned to the quintal.

Nearly all the fishermen of Shippagan and the Bay of Chaleur, split, salt, and cure their own fish. When they do not, 252lb of green fish, salted and drained, are given to a curer, to return 112lb of merchantable dry fish.

The boats, as they return from the fishing banks, run alongside a stage built over the water, upon which the fish are thrown out. The first man that handles the fish cuts its throat with a single stroke of his knife, and slides it along a sort of table to another, who whips off the head, and drops it, with the entrails, through a hole in the table, into the water underneath, retaining only the liver, which is thrown into a tierce to make oil. The next man splits the fish, and takes out the backbone; on the manner in which these operations are performed, the quality of the fish for market, in a great degree depends. They are then washed, and rubbed with salt, in which they remain for six or eight days; then, being again well washed, they are placed in what is called a "horse-pile," to drain. After draining twenty four hours, they are spread out to dry, on long narrow wicker frames or stages, set up on purpose, called "flakes." They require to be frequently turned to prevent their being "sun-burnt," or "salt-burnt;" and they cure in about three weeks. It is not well to cure them too fast; they are best when dried moderately.

After the fish are sufficiently cured, they are collected and laid in small circles, with the tails outwards; these circles are continually built upon, each row being larger than the one below it, until the pile is about three feet high, when the circles begin to diminish, so as to form a conical roof; this is covered with birch bark, and stones are placed upon it. The piles are thus rendered impervious to the heaviest rains; and in this position, the fish are left to season before being packed for exportation.

The Bay of Chaleur cod are more prized in the markets of the Mediterranean, and will, at all times, sell there more readily, and at higher prices, than any other. They are beautifully white; and being very dry, can better withstand the effects of a hot climate and long voyage, than a more moist fish. The peculiarity of their being smaller than cod caught elsewhere, is also of great importance as regards the South American market, for which they are packed in tubs of a peculiar shape, called "drums," and into which they are closely pressed by means of a powerful screw.

The usual baits for cod on the New Brunswick coast, and in the Bay of Chaleur, are—capelin, in the early part of the season—and afterwards, herring and mackerel—when no other bait can be had, clams are used.

The capelin (*mallotus villosus*) is a beautiful little fish, from four to seven inches in length, the under jaw longer than the upper, the colour of the back greenish, the under surface of the body silvery. They usually appear about Miscou, and in the Bay of Chaleur, early in May; but sometimes not until near the end of that month. The cod fishery does not fairly commence until the arrival of the capelin, which continue near the shores until the end of July.

There has been great complaint of late years, in the upper part of the Bay of Chaleur, of the falling off in the cod fishery, which is said to be every year decreasing. At Carleton, Maria, New Richmond, and other places on the Gaspé shore, the fishing establishments are deserted, and going to ruin. At these places,

there was formerly an abundant supply of fish ; but the inhabitants now barely catch enough for their own winter store.

This decrease is also felt on the New Brunswick shore. The settlement of Petit Rocher sends out about 50 boats only, which average a catch of 50 quintals each, during the season. The Pockshaw coast sends out a few boats, but they only fish occasionally. The Caraquet and Shippagan boats, further down the Bay, take more than 100 quintals each during the season, which are of better quality than those taken off Petit Rocher. The decline of the cod fishery in the upper part of the Bay is attributed to the wanton destruction of the proper and natural food of the cod—herring and capelin—which are taken in immense quantities ; not for immediate eating, or for curing, or for bait—but for manuring the land !

In a representation made to the Canadian Legislature by a fisherman of Gaspé, it is stated, that this fisherman has seen five hundred barrels of capelin taken in one tide, expressly for manure ; and that he has also seen one thousand barrels of herrings caught at one time, and not taken away, but left to rot upon the beach !

It has been remarked in the Bay of Chaleur, that owing to this waste of the smaller fish, the cod fishery recedes, as agriculture advances. The lazy farmer, who thinks he can increase the fertility of his land by a single sweep of his seine, does so at the expense of the fisheries, although a bountiful Providence has furnished the shore with inexhaustible quantities of kelp, seaweed, and other valuable manures, which really enrich the soil, while it is admitted that the use of fish greatly deteriorates it.

The Legislature of Canada has been strongly urged to make it a misdemeanor, punishable by fine and imprisonment, for any person to use either herring or capelin as manure ; and such a measure would seem to be highly desirable in New Brunswick. To be effective, there should be similar regulations on both sides of the Bay of Chaleur.

The deep-sea fishery for cod is not prosecuted to any great extent in the Gulf by the people of New Brunswick. A few schooners proceed from the fishing stations in the County of Gloucester, already mentioned, to the Bradelle Bank, about fifty miles from Miscon. In the summer of 1839, H. M. S. *Champion*, in sailing from the East Cape of Prince Edward's Island to the Bay of Chaleur, (crossing the Bradelle Bank) passed through a fleet of 600 to 700 sail of American fishing schooners, all engaged in cod fishing.

The vessels of Gaspé frequently resort to Anticosti, off the eastern end of which island, cod are often taken in great abundance and of good quality.

The excellent fishery on the Labrador coast is prosecuted almost wholly by the Americans, and by vessels from Newfoundland, Canada, and Nova Scotia. The vessels usually employed are schooners of 70 or 80 tons burthen, and they arrive on the coast about the end of May. Every part of the coast is frequented by fishing vessels during the season, from Mount Joli, at the southern boundary of Labrador, to the northern extremity of the Straits of

Belleisle. On reaching the coast, the vessel enters some snug harbour, where she is moored, and there remains quietly at anchor, until a full fare, or the departure of the fish, requires the master to seek another inlet, or return home.

The fishery is carried on entirely in boats, and the number found most useful is one for every thirty tons of the vessel; there are two men to each boat. If fish are in plenty, and not too distant from the vessel, they are expected in good weather to get two loads each day. The return of the boats with fish is the signal for the dressing crew, who remain on board, to commence their operations. If it is intended that the vessel shall remain on the coast until the fish are ready for market, they are taken on shore as caught, and there dressed, salted, and dried, before being put on board the vessel. But it is the more common practice, especially with vessels from the United States, to salt the fish on board, and take their cargoes home in a green state, drying them after arrival.

The vessels from Nova Scotia and Canada, in general, carry their cargoes home in a green state.

About three hundred schooners from Newfoundland resort to the Labrador coast every season, during which they usually make two voyages. When they first return from the coast, they take home a cargo of dry fish; but on the second return voyage, a considerable proportion of the fish is in a "green" or pickled state, and is dried at Newfoundland.

The Labrador coast is indented every where with excellent harbours, which have been frequented for a very long period. From the security of these harbours, and the general certainty of an ample supply of fish, this coast is preferred by many fishermen to any other fishing station within the Gulf.

The average produce of this fishery may be estimated at ten quintals of dry fish to every ton of the vessels employed; but the masters of the American schooners are dissatisfied when they fail to catch 12 or 13 quintals per ton. The baits are principally the capelin and the herring, both of which abound on that coast. The herrings taken at Labrador, in the latter part of the season, are considered very fine; yet they are not caught as a chief object of pursuit, but merely as an adjunct to the cod fishery.

The quantity of dried cod exported from New Brunswick Ports, in the Gulf of Saint Lawrence, during the last eight years, is thus stated, in quintals:—

PORTS.	1841	1842	1843	1844	1845	1846	1847	1848	Totals.
Dalhousie,.....	..	..	500	..	..	..	..	..	500
Bathurst,.....	..	50	..	..	..	..	..	1091	1141
Caraquet,.....	7770	9638	8670	8841	7456	11,673	8672	14,678	77,398
Miramichi,.....	..	486	300	150	70	272	1398	298	2974
Richibucto,.....	..	..	..	40	..	25	270	..	335
Totals,.....	7770	10,174	9470	9031	7526	11,970	10,340	16,167	82,348

From this return it appears, that the export of dried cod from the northern Ports of New Brunswick, is chiefly from Caraquet.

This export is made almost wholly by the Jersey houses of Robin and Co., and Le Boutillier Brothers, of Paspebiac in Gaspe, and Alexandre and Co., of Shippagan, to Brazil, Spain, Portugal, Sicily, and the Italian States. The export of cod from the Gulf of Saint Lawrence to foreign markets, is a branch of business which the merchants of New Brunswick have yet to learn.

The quantity of dried cod exported to foreign countries from the District of Gaspe, during the past year (1848,) is thus stated from official returns:—

Gaspe Basin,	41,269 quintals.
New Carlisle,	46,523 do.

Total, 27,722 quintals.

The whole quantity of dried cod exported from New Brunswick during the last eight years, is exceeded by the quantity exported from Gaspe during the year 1848 only, by 5,414 quintals.

There is reason to believe, that a considerable proportion of the cod exported from New Carlisle, is caught on the south side of the Bay of Chaleur, and about Miscou, the fishing grounds being better near the New Brunswick shores, than on the Gaspe side of the Bay.

The quantity of dried cod exported from Newfoundland in 1845 was 1,000,333 quintals, of which one-sixth was the produce of the fishery on the Labrador coast.*

The whole line of the New Brunswick coast from Shediac to Escuminac, around the Bay of Miramichi, and thence along the shores from Tabusintac to Shippagan and Miscou, offers the greatest facility for prosecuting either the in-shore, deep-sea, or Labrador cod fishery. There are numerous harbours, creeks, coves, lagoons, and inlets, on this line of coast, well sheltered, with sufficient water for boats and vessels of every size and description; the beaches are admirable for drying fish, and there is abundance of wood at hand for the construction of stages and "fish flakes." The soil, too, is generally excellent, and owing to the flatness of the coast, the shore is every where easy of approach. For the establishment of fishing stations by merchants of capital and skill, or the organization of Fishing Colonies on an extensive scale, this coast offers rare advantages.

The Bay of Chaleur likewise possesses many advantages for the prosecution of the fisheries. The whole Bay may be considered one great harbour, as throughout its entire breadth and extent, there is not a single rock, reef, or shoal. During the summer, it literally swarms with fish of every description known on the shores of British North America; and its ancient Indian name of "Eck-etaun Nemaachi"—the Sea of Fish—well denotes its character.

The facilities for ship building are very great on the New Brunswick side of this Bay. The timber is of excellent quality, and

* The French employ 360 vessels, from 100 to 300 tons each, with crews amounting to 17,000 men, in the Newfoundland fisheries. Their annual catch of cod averages 1,200,000 quintals. The Government bounty is eleven francs per quintal, which is fully the value of the article itself. A French vessel for the Bank fishery, of 300 tons, has a crew of at least 40 men, and from 7 to 9 heavy anchors, with 800 fathoms of hemp cable, and 4 or 5 large boats, capable of standing heavy weather.

noted for its durability, more especially the larch, which is accounted equal to any in the world. Mr. MacGregor, M. P. for Glasgow, late Secretary to the Board of Trade, in one of his official Reports to that Board, says—

“The larch-built vessels of the Bay of Chaleur are remarkably durable. A vessel belonging to Robin and Co., which I saw at Paspébiac in 1824, I went on board of again in 1839, in the port of Messina, where she was then discharging a cargo of dry codfish, to feed the Sicilians. This vessel, then more than thirty years old, was perfectly sound.”

The “bultow” mode of fishing for cod, introduced by the French at Newfoundland, and now being adopted by the English residents there, might very probably be followed with advantage by the fishermen dwelling on the New Brunswick coast.

The “bultow” is described as a long line, with hooks fastened along its whole length, at regular distances by shorter and smaller cords called *snoods*, which are six feet long, and are placed on the long line twelve feet apart, to prevent the hooks becoming entangled. Near the hooks, these shorter lines or *snoods*, are formed of separate threads, loosely fastened together, to guard against the teeth of the fish. Buoys, buoy ropes, and anchors or grapnels, are fixed to each end of the line; and the lines are always laid, or as it is termed “shot” across the tide; for if the tide runs upon the end of the line, the hooks will become entangled, and the fishing will be wholly lost. These “set-lines” have been some time in use on the coast of Cornwall, in England, and the mode is there called “bultor” fishing.* A gentleman connected with the British Fishery Board, has suggested an improvement, in fixing a small piece of cork within about twelve inches of the hook, which will suspend and float the bait, when it will be more readily seen by the fish. If a bait rests upon the ground, it is sometimes covered with sea-weed, and often devoured by star-fish, crabs, and echini.

In a petition from the inhabitants of Bryant’s Cove, in Newfoundland, to the Legislature of that Colony, in 1846, it is stated, that the “bultow” mode of fishing had been introduced in that vicinity in the previous year, at first by a single line, or “fleet,” as it is termed, of one hundred hooks; and this proved so successful, that before the end of the season, seventy five fleets were used, some of them three hundred fathoms long. The petitioners represent, that the set-line, or “bultow,” is the best mode of fishing ever introduced in those waters, as being less expensive in outfit, and keeping boats in repair. They state, that a set-line will last three years, and with care, even longer; that the total expense of fitting one out, with a gross of hooks, is only fifteen shillings; and that it is not moved during the season, nor taken up, except for overhauling and baiting, until the fish move out in the deep water in the autumn. The petitioners add, that the fish taken by the “bultow” are larger than those taken by the hand line, as also superior in quality; and that it was a common thing, during the

* Mr. Wallop Brabazon, in his work on the Deep-Sea Fisheries of Ireland, says this mode of fishing is much practised on the West Coast of Ireland, where it is called “spilliard,” or “spillet” fishing.

preceding season, for one and a half quintals of fish to be taken off a gross of hooks, in overhauling the line of a morning. It appears that the lines are overhauled, and fresh baits placed on the hooks every morning and evening; and it is set forth as an advantage of the "bultow," that if the fisherman leaves it properly baited in the morning, it is fishing for him while he is at work in his garden; whereas, by the other mode, if he was not on the ground, he could not expect fish. The petition then proceeds thus:—

"Your petitioners therefore pray your honourable House to cause the following rules, or something like them, to pass into law, as like all new inventions, the set-line, or "bultow," has to struggle against many hinderances, from ignorance, and bigotry to the old method, yet, as your petitioners have endeavoured to show, the "bultow" has proved itself, what may be fully termed, "THE POOR MAN'S FRIEND."

The rules which the petitioners pray may become law, are simply that the fishing grounds may be divided into two parts, one for the "bultow," and one for hand-line fishermen; that the "bultows" shall always be set parallel with each other, that they may not get foul, and may take up as little room as possible; and lastly, that a person conversant with this mode of fishing, may be appointed to enforce these rules, and to instruct those who are not acquainted with the method, in the proper manner of fitting out and setting the "bultow." The petitioners conclude by stating their belief, that if their suggestions are carried out, the boats now used in the shore fishery will, in three years, give place to the "bultow" throughout Newfoundland, as they have already done in Bryant's Cove.

For the deep-sea fishery, the "bultow" is of great length. The French fishing vessels chiefly anchor on the Grand Bank of Newfoundland, in about 45 fathoms water, veer out one hundred fathoms of cable, and prepare to catch cod, with two lines, each 3000 fathoms in length. The snoods are arranged as previously described, and the hooks being baited, the lines are neatly coiled in half bushel baskets, clear for running out. The baskets are placed in two strong built lug-sail boats, and at three o'clock in the afternoon, both make sail together, at right angles from the vessel, on opposite sides; when the lines are run out straight, they are sunk to within five feet of the bottom. At day break next morning, the boats proceed to trip the sinkers at the extremities of the lines, and while the crew of each boat are hauling in line and unhooking fish, the men on board heave in the other end of the lines, with a winch. In this way, four hundred of the large Bank cod are commonly taken of a night. The fish are cleaned and salted on board, and stowed in the hold in bulk; the livers are boiled to oil, which is put in large casks secured on deck. The French vessels engaged in this fishery, are from 150 to 300 tons burthen; they arrive on the Grand Bank early in June, and on the average, complete their cargoes in three months. In fine weather, the largest class of vessels frequently run out three or four "bultows" in different directions from the ship, and thus fish 10,000 fathoms of line, or more, at one time, with a proportionate number of hooks.

Should this mode of fishing be approved, measures might be devised for promoting its adoption near the shores of New Brunswick.

If circumstances should arise to induce the prosecution of the cod fishery of the Gulf of Saint Lawrence, on a more extensive scale, some regulations will be necessary for an efficient inspection of dried fish, intended for exportation to foreign markets, in order to give a character to the commodity, and prevent carelessness in curing. On this point, the Commissioners of the British Fisheries, in their Report for 1844, say—

“It is very gratifying to observe, that there is a gradual increase in the annual export of dried cod to Spain, where a most extensive market for the consumption of this description of fish, may be fairly looked for, in the course of some years. This can only be obtained by unremitting care on the part of the Board’s officers, in their inspection and punching of the fish, the Spaniards being very particular in regard to the excellence of the article they purchase. The Commissioners have judged it right to order an improvement in the form of the official punch used for stamping the dried cod and ling, and instead of that lately used, which cut a square figure out of the tail of the fish, for which some private marks used by curers were liable to be mistaken, they have adopted a Crown, which is less liable to be imitated.”

Besides cod, there are several species of fish of the same genus, caught in the Gulf, in the prosecution of the cod fishery. These are—the haddock, the hake, and the torsk, or tusk. These fish are cured in the same manner as cod, to which, however, they are inferior. They are known commercially as “scale fish;” and on the average, they sell at about half the price of cod.

The cod fishers in the Gulf often take the large flat-fish, known as the halibut, which sometimes attains the weight of 300lb. The flesh, though white and firm, is dry, and the muscular fibre coarse. These fish are cut in slices, and pickled in barrels, in which state they sell at half the price of the best herrings.

THE MACKEREL.

The common mackerel abounds in the Gulf of Saint Lawrence, and is one of the chief objects of pursuit with the numerous fleets of American fishing vessels, which are to be found yearly in every part of the Gulf. The Americans begin fishing for mackerel, in the Gulf, on the first of July, and finish at the end of September; but the resident fishermen might begin this fishing earlier, and continue it until the very close of the season.

Mr. MacGregor describes the mackerel of the Gulf as being of much finer flavour than those caught on the shores of Europe.

It has been generally supposed that the mackerel was a fish of passage, performing certain periodical migrations—making long voyages from south to north at one season of the year, and the reverse at another; but the error of this opinion is now generally admitted. It is known with certainty, that mackerel remain near the coast of England at all times, as they have been taken there in every month of the year. Mr. Yarrell, whose work on British Fishes is of the highest authority, is of opinion that the mackerel is not a migratory fish; he says—

“The law of nature which obliges mackerel and others to visit the shallow waters of the shores at a particular season, appears to be one of those wise and bountiful provisions of the Creator, by which not only is the species perpetuated with the greatest certainty, but a large portion of the parent animals are thus brought within the reach of man; who, but for the action of this law, would be

deprived of many of those species most valuable to him as food. For, the mackerel, dispersed over the immense surface of the deep, no effective fishery could be carried on; but approaching the shore as they do, from all directions, and roving along the coast in immense shoals, millions are caught, which yet form but a very small portion compared with the myriads that escape."

Although mackerel are found in vast shoals along the whole eastern coast of New Brunswick, and within the Bay of Chaleur, yet the quantity taken by resident fishermen is so very limited, as not to furnish a sufficient supply for home consumption, and few indeed for export.

The Ports of the Province within the Gulf, exported the under-mentioned quantities of mackerel, in barrels, during the last eight years:—

PORTS.	1841	1842	1843	1844	1845	1846	1847	1848	Total.
Dalhousie,	..	..	..	..	..	..	..	..	..
Bathurst,	..	..	..	..	..	33	..	4	37
Caraget,	..	..	..	..	..	256	99	25	380
Miramichi,	..	..	..	..	..	145	47	..	192
Richibucto,	..	..	..	..	..	..	..	..	..
Totals,	..	..	..	..	..	434	146	29	609

This is a most "beggarly account" of a fishery, which ought to be, in this Province, one of the most extensive and most lucrative. The export of 29 barrels only in the year 1848 is perfectly surprising, when it is considered that the season was one, in which the mackerel fishery was more than usually successful. In August last, the waters of the Straits of Northumberland, from Shediac to Prince Edward Island, were perfectly alive with mackerel. Off Point Escuminac, the American fishermen caught them with such rapidity, and in such quantities, that they were unable to clean and salt the fish as fast as they were caught; and it was reported on the coast, that they had sent on shore, and engaged some of the settlers at high wages, to go off to the vessels, and assist in these necessary operations.

Monsieur Leon Robicheaux, an intelligent native fisherman, resident on Shippagan Island, from whom the writer obtained valuable information as to the fisheries, stated, that although mackerel were always plentiful during the season near Shippagan and Miscou, yet the resident fishermen were too idle to take them. He added, that they only caught a few as bait for cod, or as matter of sport, when sailing to or from their stations for cod fishing.

The American vessels which prosecute mackerel fishing near the shores of New Brunswick, are fitted out in Maine and Massachusetts; they have two long voyages to make in going to, and returning from, their fishing ground, yet they find it profitable without any bounty. If it be profitable to them, how much more so could it be made by resident fishermen, who are spared the expense of costly vessels and outfits, high wages, and long voyages.

The mode of fishing pursued by the American mackerel fishers who frequent the Gulf, is that with the line, called "trailing." When a "schull" is met with, the vessel, generally of 60 or 80 tons burthen, is put under easy sail, a smart breeze (thence called

a mackerel breeze) being considered most favourable. It is stated by Mr. Sabine, of Eastport: who is good authority, that he has known a crew of ten men, when fishing in the Bay of Chaleur, catch in one day, ninety packed or "dressed" barrels of mackerel, which could not contain less than 12,000 fish.

If no fish are in sight, the American mackerel fisher on reaching some old resort, furls all the sails of his vessel, except the main sail, brings his "craft" to the wind, and commences throwing over bait, to attract the fish to the surface of the water. The bait is usually small mackerel, or salted herrings, cut in pieces by a machine, called a "bait-mill." This consists of an oblong wooden box, standing on one end, containing a roller armed with knives, which is turned by a crank on the outside; it cuts up bait very expeditiously. If the fisherman succeeds, the mackerel then seem willing to show how fast they can be caught; and the fishing goes on till the approach of night, or the sudden disappearance of the remnant of the "schull" puts an end to it. The fish are then dressed, and thrown into casks of water to rid them of blood. To ensure sound and sweet mackerel, it is indispensable that the blood and impurities should be thoroughly removed before salting; that the salt should be of the best quality, free from lime, or other injurious substances; and that the barrels should, in all cases, be tight enough to retain the pickle.

In those harbours of Nova Scotia which are within the Strait of Canso, mackerel, of late years, have been taken in seines, capable of enclosing and securing 800 barrels; and in these seines, 400 and even 600 barrels have been taken at a single sweep. The "drift-net" is also used; but as it is believed that this mode of fishing is not so well understood on the coast of Nova Scotia, as on that of England, the manner of fishing near the latter, with the "drift-net," as described by Mr. Yarrel, is given in preference:—

"The most common mode of fishing for mackerel, and the way in which the greatest numbers are taken, is by drift-nets. The drift-net is 20 feet deep, by 120 feet long; well corked at the top, but without lead at the bottom. They are made of small fine twine, which is tanned of a reddish-brown colour, to preserve it from the action of the salt water, and it is thereby rendered much more durable. The size of the mesh is about 2½ inches, or rather larger. Twelve, fifteen, and sometimes eighteen of these nets are attached lengthways, by tying along a thick rope, called the drift-rope, and the ends of each net, to each other. When arranged for depositing in the sea, a large buoy attached to the end of the drift-rope is thrown overboard, the vessel is put before the wind, and as she sails along, the rope with the nets thus attached, is passed over the stern into the water, till the whole of the nets are thus thrown out. The nets thus deposited, hang suspended in the water perpendicularly, 20 feet deep from the drift-rope, and extending from three quarters of a mile to a mile, or even a mile and a half, depending on the number of nets belonging to the party, or company engaged in fishing together. When the whole of the nets are thus handed out, the drift-rope is shifted from the stern to the bow of the vessel, and she rides by it as at anchor. The benefit gained by the boat's hanging at the end of the drift-rope is, that the net is kept strained in a straight line, which, without this pull upon it, would not be the case. The nets are "shot" in the evening, and sometimes hauled once during the night, at others allowed to remain in the water all night. The fish roving in the dark through the water, hang in the meshes of the net, which are large enough to admit them beyond the gill-covers and pectoral fins, but not large enough to allow the thickest part of the body to pass through. In the morning early, preparations are made for hauling the nets. A

capstan on the deck is manned, about which two turns of the drift-rope are taken; one man stands forward to untie the upper edge of each net from the drift-rope, which is called casting off the lashings; others haul the net in with the fish caught, to which one side of the vessel is devoted; the other side is occupied with the drift-rope, which is wound in by the men at the capstan."

The following is a statement of the number of barrels of mackerel inspected in Massachusetts in each year, from 1831 to 1848, inclusive:—

1831,	383,559	1840,	50,992
1832,	212,452	1841,	55,537
1833,	212,946	1842,	75,543
1834,	252,884	1843,	64,451
1835,	194,450	1844,	86,180
1836,	176,931	1845,	202,303
1837,	138,157	1846,	174,064
1838,	108,538	1847,	232,581
1839,	73,018	1848,	300,130

It does not appear what proportions of these large quantities of mackerel were caught in British waters; but it must have been a very considerable share, if an opinion may be formed from the numerous fishing vessels of Massachusetts seen on the coasts of Nova Scotia, and within the Gulf of Saint Lawrence.

From all that has been stated, it must be considered settled, that the mackerel fishery, as a branch of business, cannot be said to exist in New Brunswick, although the eastern shores of the Province, and the whole Bay of Chaleur, offer the greatest facilities, and the most abundant supply of fish.

It is highly desirable that something should be done to encourage and promote this fishery, which evidently offers such ample reward to the energy, enterprise, and industry of the people.

THE SALMON.

Of those Rivers of New Brunswick which flow into the Gulf of Saint Lawrence, the two largest, the Miramichi and the Restigouche, furnish the greatest supply of this well known and delicious fish; but all the smaller rivers also furnish salmon, in greater or less numbers. There are also various bays, beaches, islands, and points of land along the coast, where salmon are intercepted by nets, while seeking the rivers in which they were spawned, to which salmon always return.

The salmon of the Gulf are noted for their fine flavour; they are precisely similar to the *salmo salar* of Europe.

The quantities of salmon in the Rivers Restigouche and Miramichi, at the first settlement of the country, were perfectly prodigious; although many are yet taken annually, the supply diminishes from year to year. And this is not surprising when it is considered, that many of the streams formerly frequented by salmon, are now completely shut against them, by mill dams without "fishways," or those openings which the British Fishery Reports designate as "migration passes;" that in the branches of the large rivers, as also in the smaller rivers, nets are too often placed completely across the stream, from bank to bank, which take every fish that

attempts to pass; that "close time" in many of the rivers is scarcely, if at all, regarded; and that, besides the improper use of nets at all seasons, fish of all sizes are destroyed by hundreds, in the very act of spawning, by torch light and spears, at a time when they are quite unfit for human food.

The quantities of pickled salmon in barrels, exported from the northern ports of New Brunswick, during the last eight years, are as follows:—

Ports.	1841	1842	1843	1844	1845	1846	1847	1848	Totals.
Dalhousie,	138	273	552	591	565	766	643	381	3909
Bathurst,	32	161	250	126	134	216	190	156	1265
Caraget,	11	20	13	5	..	..	..	5	52
Miramichi,	1614	2295	1093	1616	1836	146	1531	1571	11,702
Richibucto,	20	..	107	137	77	78	61	..	480
Totals,	1815	2749	2015	2475	2612	1206	2425	2111	17,408

Since the establishment of regular Steamers from the Port of Saint John to Boston, large quantities of fresh salmon, packed in ice, have been exported, and the commodity has greatly increased in value. If facilities of communication were created by railway, the fresh salmon of the Gulf could also be sent abroad in ice, and their value when first caught, would be three or four times as great as at present.

The exceeding value of the salmon fisheries of Ireland and Scotland, cause great attention to be paid by the British and Irish Fishery Boards, to the enforcement of most stringent regulations for their preservation and increase. With reference to the preservation of salmon, the Inspectors of the Irish Fisheries reported to the Board, in 1846, as follows:—

"In illustration of the benefits of a steady perseverance in a proper system, we may allude to the Foyle, where the produce has been raised from an average of 43 tons previous to 1823, to a steady produce of nearly 200 tons, including the stake-weirs, in the estuary, and very nearly to 300 tons, as we believe, in the year 1842."

The Inspectors also mention the case of the small river of Newport, County Mayo, which was formerly exempt from "close season." In three years, after the Parliamentary regulations were introduced and enforced, the produce of this river was raised from half a ton, or at the utmost, a ton every season, to eight tons of salmon, and three tons of white trout, for the season ending the third year.

The preservation and maintenance of the salmon fisheries of New Brunswick generally, is a subject well worthy of earnest attention. To prevent the destruction of the fish during the spawning season, and by improper modes of fishing, as also to provide for the passage of the fish up those streams which they have formerly frequented, but from which they are now excluded by mill dams, some further enactments are absolutely necessary, and more efficient means are required for enforcing the provisions of the law. The most valuable river fishery of the Province is in a

fair way of being rendered valueless, or wholly destroyed; and as the rivers are the natural nurseries of the salmon, the fishery on the coast will, of course, be destroyed also.

Large quantities of salmon are caught every season on the Labrador coast, in stake-nets placed at the mouths of rivers, which empty into bays and harbours; these are split and salted in large tubs, and afterwards repacked in tierces of two hundred pounds each. A number of vessels, from Newfoundland and Canada, are engaged annually in this fishery; but the American fishing vessels pursue it with great vigour and assiduity, and it is reported that of late years they have found it very profitable.

The quantity of pickled salmon exported from Newfoundland in 1847, was 4,917 tierces, one half of which was the produce of the salmon fishery on the coast of Labrador.

THE WHALE.

The extent to which the Whale Fishery is carried on, within the Gulf of Saint Lawrence, by vessels from Newfoundland, is very little known, nor is its value appreciated. The Jersey houses who have fishing establishments in Gaspé, also fit out vessels for this fishery, which cruise about Anticosti, and the northern shore of the Saint Lawrence. Mr. MacGregor, in an official Report to the Board of Trade, thus describes this fishery:—

"The whales caught within the Gulf of Saint Lawrence, are those called 'hump-backs,' which yield on an average about three tons of oil; some have been taken seventy feet long, which produced eight tons. The mode of taking them is somewhat different from that followed by the Greenland fishers; and the Gaspé fishermen first acquired an acquaintance with it from the people of Nantucket. An active man, accustomed to boats and schooners, may become fully acquainted with every thing connected with this fishery in one season. The vessels adapted for this purpose, are schooners from seventy to eighty tons burthen, manned with a crew of eight men, including the master. Each schooner requires two boats, about twenty feet long, built narrow and sharp, and with pink sterns; and 220 fathoms of line are necessary to each boat, with spare harpoons and lances. The men row towards the whale, and when they are very near, use paddles, which make less noise than oars. Whales are sometimes taken in fifteen minutes after they are struck with the harpoon. The Gaspé fishermen never go out in quest of them, until some of the smaller ones, which enter the bay about the beginning of June, appear; these swim too fast to be easily harpooned, and are not, besides, worth the trouble. The large whales are taken off the entrance of Gaspé Bay, on each side of the Island of Anticosti, and up the River Saint Lawrence as far as Bic."

Mr. Bouchette, in his work on Lower Canada, represents the whale fishery of the Gulf as meriting the attention of the Legislature, and needing encouragement; by which, he says, the number of vessels employed would be considerably increased, and this important branch of business would be so effectually carried on by the hardy inhabitants of Gaspé, as to compete, in some degree, if not rival, that of the Americans, who were, at the time Mr. Bouchette wrote, almost in exclusive enjoyment of it, and carried on their enterprising fisheries in the very mouths of the bays and harbours of Lower Canada.

Sir Richard Bonnycastle, in his work, entitled "*Newfoundland in 1842*," says, "the Coast and Gulf Whale Fishery is now being of much value to Newfoundland." Sir Richard states, that the

vessels employed are large schooners, with crews of ten men each ; that the fishery is pursued during the whole of the summer months along the Coast of Labrador, and in, and through, the Straits of Belleisle ; and that whales of all sizes are taken, from the smallest "finer," up to the largest *mysticetus*, or great common oil whale of the Northern Ocean, which occasionally visits these regions.

It is believed that hitherto, no attempt has been made by the people of New Brunswick, to enter into this whale fishery ; and it would be a very proper subject for inquiry, whether it might not be profitably conducted by New Brunswick vessels, and the active and enterprising fishermen of the Bay of Chaleur, who are equally well placed for carrying it on, as their hardy comrades on the Gaspe side of the Bay.

THE SEAL.

As the capture of the seal is always designated the "Seal Fishery," and as it is blended with the other pursuits of the fisherman, it may be proper to mention it here.

Five kinds of seal are said to be found in the Northern Ocean ; they bring forth their young on the ice early in the spring, and then float down upon it from the polar seas to Labrador, the coast of Newfoundland, and the Gulf of Saint Lawrence. The two largest kinds are known as the harp seal, (*phoca groenlandica*.) and the hooded seal, (*phoca leonina*.) The other three varieties are known as the "square flipper," the "blue seal," and the "jar seal."

Large herds of these seals are found together upon the fields of floating ice, which, when so occupied, are called "Seal Meadows." The seal hunters endeavour to surprise them while sleeping on the ice, and when this occurs, they dispatch the young with bludgeons ; the old ones, which will frequently turn and make resistance, they are obliged to shoot.

Sealing is carried on very extensively from Newfoundland, in schooners of about eighty tons burthen, with crews of thirty men. It is attended with fearful dangers ; yet the hardy seal hunter of Newfoundland eagerly courts the perilous adventure.

The following return of the number of seal skins exported from Newfoundland from 1838 to 1848 inclusive, will furnish some idea of the value of the seal fishery to that Colony :—

1838	375,361	1844	635,530
1839	437,501	1845	352,202
1840	631,385	1846	...
1841	417,115	1847	436,831
1842	344,683	1848	521,004
1843	651,370	...	...

The outfit for the "Seal Fishery" from the various harbours of Newfoundland in the year 1847, was as follows :—

321 Vessels : 29,800 Tons : 9,751 Men.

Sealing among the ice, is also prosecuted, in early spring, at the Magdalen Islands ; and also on the Labrador Coast, by the people who remain there during the winter in charge of the fishing

stations, and the conduct of the fur trade. Seals are also caught at Labrador on the plan first adopted, by strong nets set across such narrow channels as they are in the habit of passing through.

Within a few years, the "Seal Fishery" has been commenced at Cape Breton, encouraged by a small Provincial bounty; it has been conducted in vessels not over 40 tons burthen, with crews of eight men. In 1843, twenty two vessels went to the ice from Cheticamp and Margaree, and returned with near 10,000 seals, which are stated to have amply requited those engaged in the adventure, as their outfit was on a very limited scale. In 1842, an enterprising merchant of Sydney fitted out a sealing vessel, on the Newfoundland scale, which in the short space of three weeks cleared the round sum of £14,000; and this extraordinary success encouraged others to enter into the business.

As yet, sealing is altogether unknown to the inhabitants of New Brunswick; although it is believed that the adventure might be made successfully by vessels departing from the northeastern extremity of the Province.

The harbour seal (*phoca vitulina*) is frequently seen along the coasts of New Brunswick during the summer season, and is believed not to be migratory. They are closely watched by the Micmac Indians, who often succeed in shooting them. The fur of these seals is sometimes very handsome; and the animal is always a rich prize to the poor Micmac.

SHELL FISH.

Under this head may be enumerated lobsters, oysters, clams, mussels, whelks, razor-fish, crabs, and shrimps, all of which are found in the Gulf, in the greatest abundance, and of excellent quality. Mr. MacGregor states, that they are all equally delicious with those taken on English, Irish, Scotch, or Norwegian shores.

Lobsters are found everywhere on the coast, and in the Bay of Chaleur, in such extraordinary numbers, that they are used by thousands to manure the land. At Shippagan and Caraquet, carts are sometimes driven down to the beaches at low water, and readily filled with lobsters left in the shallow pools by the recession of the tide. Every potato field near the places mentioned, is strewn with lobster shells, each potato hill being furnished with two, and perhaps three, lobsters.

Within a few years, one establishment has been set up on Portage Island, at the mouth of the Miramichi River, and another at the mouth of the Kouchibouguac River, for putting up lobsters, in tin cases, hermetically sealed, for exportation. In 1845, no less than 13,000 cases of lobsters and salmon were thus put up at Portage Island. In 1847, nearly 10,000 cases, of lobsters only, each case containing the choicest parts of two or three lobsters, and one and a half tons of fresh salmon, in 2lb. and 4lb. cases, were put up at Kouchibouguac. The preservation of lobsters, in this manner, need only be restricted by the demand, for the supply is almost unlimited.

The price paid for lobsters at the establishment on Portage Island, when the writer visited it, was 2s. 6d. currency (2s. sterling) per hundred. They were all taken in small hoop-nets, chiefly by the

Acadian French of the Neguac Villages, who, at the price stated, could, with reasonable diligence, earn £1 each in the 24 hours; but as they are somewhat idle, and easily contented, they would rarely exert themselves to earn more than 10s. per day, which they could generally obtain by eight or ten hours attention to their hoop-nets.

Oysters are found all along the New Brunswick coast, from Baie Verte to Caraquet, but not within the Bay of Chaleur. Those best known in this Province for their fine quality, are the oysters of Shediac; but the extensive beds which formerly existed there, have been almost wholly destroyed by improper modes of fishing, an utter disregard of the spawning season, and the wanton destruction of the fish by throwing down shells upon the beds. It is a singular fact, that ice will not form over an oyster-bed, unless the cold is very intense indeed; and when the bays are frozen over in the winter, the oyster-beds are easily discovered by the water above them remaining unfrozen, or as the French residents say, *degèlé*. The oysters are then lifted upon the strong ice with rakes; the process of freezing expands the fish, and forces open the shells; the oyster is removed, and the shells are allowed to fall back into the water, where they tend to destroy the fishery.

Some oysters of very large size and good quality are found at Tabusintac, but those of the finest description are found on extensive beds in Shippagan Harbour, Saint Simon's Inlet, and Caraquet Bay, from which localities they are exported every season to Quebec. The number of bushels exported from the port of Caraquet, during the last eight years, is as follows:—

1841,	5,000	1845,	2,019
1842,	7,000	1846,	1,515
1843,	5,290	1847,	427
1844,	6,000	1848,	5,432

Oysters are abundant at Cocagne, Buctouche, Richibucto, Burnt Church, and other places on the coast; but in general, they are too far within the mouths of the fresh water streams, and their quality is greatly inferior to those affected by sea water only.

From the manner in which the oyster fishery of the Gulf Shore is now being conducted, all the oysters of good quality will, in a few years, be quite destroyed. The preservation of this fishery is of considerable importance, and it might be effected as well by judicious regulations and restrictions, as by encouraging the formation of artificial beds, or "layings," in favourable situations. Several persons on the coast intimated to the writer, their desire to form new and extensive beds in the sea water, by removing oysters from the mixed water of the estuaries, where they are now almost worthless, if they could obtain an exclusive right to such beds when formed, and the necessary enactments to prevent their being plundered.

There are two varieties of the clam, distinguished as the "hard-shell," and the "soft-shell." They are eaten largely in spring, when they are in the best condition; and great quantities are used as bait for cod. Clams are much prized by persons residing at a distance from the sea coast, and they are frequently sent into the

interior, where they meet a ready sale, as they can be sold at a very low price.

The razor-fish derives its name from the shells being shaped very like the handle of a razor; this fish is well flavoured in the proper season, and not unlike the clam, though somewhat tougher.

Crabs, of all sizes, are to be had in abundance, but they are not often caught; neither are the shrimps, which are to be seen in endless quantities. At times, the waters of the Straits of Northumberland appear as if thickened with masses of shrimps moving about, their course being plainly indicated by the fish of all descriptions, which follow in their wake, and feed upon them greedily.

RIVER FISHERIES.

The principal fisheries in those Rivers of New Brunswick which flow into the Gulf, in addition to the salmon fishery already mentioned, are those for gaspereaux, shad, basse, and trout. There are also smelts, eels, flounders, and a great variety of small fish.

The gaspereaux has been noticed under the head of herring. This fish is found in almost every river, and the gaspereaux fishery has been considered of so much importance, that various Acts of Assembly have, from time to time, been passed for its regulation and protection. But these laws have either been neglected, or not properly enforced, and this fishery is rapidly declining. Very slight obstructions suffice to prevent the gaspereaux from ascending streams to their old haunts; the dams for mills, or for driving timber, have shut them out in numerous instances from their best spawning grounds, and the greatest injury has in this way been inflicted on the fishery.

The shad of the Gulf are not taken in such numbers, nor are they of so fine quality, as those caught in the Bay of Fundy; comparatively, they are dry and flavourless, owing as is said, to the sandy character of the shores of the Gulf, which are supposed to furnish less of the peculiar food of the shad, than the muddy rivers of the Bay of Fundy, where they are taken in such high perfection. This fishery has also been mentioned in several Acts of Assembly; but the habits, and most usual resorts, of the shad of the Gulf of Saint Lawrence, have not been carefully observed. It is not improbable, therefore, that a better knowledge of the habits of the fish might lead to this fishery becoming more valuable.

The basse, or marine perch, (*perca labrax*,) swim in shoals along the coast, and frequently ascend the rivers to a considerable distance from the sea, to deposit their spawn. They are taken of all sizes up to 20lb weight, or even more; but those of 3lb to 5lb are considered the best flavoured. They are sometimes salted, but generally they are eaten while fresh. This fishery has also been attempted to be regulated and preserved by law, but evidently with very little success, as it is fast decreasing. Sad havoc is made among the basse in the winter season, when they lie in numerous shoals half torpid, in shallow water. A large hole is cut in the ice

above them, and they are lifted out with dip-nets; in this manner the basse fishery, in some of the smaller rivers, has been wholly destroyed.

There are two species of trout found in the greatest abundance in every river, stream, and brook, which finds its way from the interior of New Brunswick to the Gulf of Saint Lawrence. Of these, the salmon trout (*salmo trutta*) is of the largest size, and most valuable. The common trout (*salmo fontinalis*) is taken in every possible variety, every where.

The sea trout (*salmo trutta marina*) seldom ascend the rivers far above the tideway; when they first enter the estuaries early in the season, they are in the finest condition, and scarcely, if at all, inferior to salmon. They are frequently taken of the weight of 7lb, though the most usual weight is from 2lb to 5lb. They are very abundant in June, in the bays and harbours of Prince Edward Island. At the Magdalen Islands they are taken in nets, and being pickled in small casks, are exported to the West Indies; if carefully cleaned, cured, and packed, they there bring a higher price than salmon.

In the tideway of the rivers flowing into the Gulf, these fine fish might be taken in sufficient quantities to form an article of traffic. They afford great sport to the fly-fisher, especially when they first enter the mixed water of the tideway in the smaller rivers.

The common trout (*salmo fontinalis*) are also eagerly sought after by the disciples of Izaak Walton; and although destroyed in the most wanton and reckless manner by unthinking persons, they are still abundant. The destruction of these beautiful fish takes place by wholesale, upon many rivers in the northern part of the Province, and one of the modes practised is called "rolling for trout." When the streams are at their lowest stage in the summer season, a dam of logs, stones, and brush, is roughly built at the lower end of some pool, in which the fish have congregated. This "rolling dam" being constructed, the stream for some distance above the pool, is beaten with poles, and the fish are driven down to the deepest water, out of which they are swept with a net. The writer was informed, that in this way 3,600 trout had been taken out of one pool, at a single sweep of the net. In August, 1848, 1,300 large trout were thus taken out of one pool on the Scadouc River, while the writer was at Shediac. This practice is greatly to be deprecated, as by destroying fish of all sizes, it completely breaks up the trout fishery on those rivers where it takes place.

The smelt (*osmerus eperlanus* of Cuvier, and *osmerus viridescens* of Agassiz,) is found in excessive abundance in all the rivers and streams flowing into the Gulf. In the latter part of winter, when in the best condition, they are taken through holes in the ice, and at that season are a very great delicacy; they are then frequently called "frost fish." Immediately after the ice disappears, they rush in almost solid columns up the brooks and rivulets to spawn, and are then taken by cart loads. This fishery,

under proper management, might be made one of considerable profit, as the smelt is really delicious, and always highly esteemed. It is believed that there are two distinct species of this fish, and that the smaller of the two is more highly scented, as well as more highly flavoured, than the other.

Eels of large size and of fine quality, are taken every where within the Gulf, besides those consumed fresh, they are pickled in considerable quantities, as well for home consumption, as for exportation. Mr. Yarrell, in describing the eel, says:—"They are in reality a valuable description of fish; they are very numerous, very prolific, and are found in almost every part of the world. They are in great esteem for the table, and the consumption in our large cities is very considerable."

In the calm and dark nights during August and September, the largest eels are taken in great numbers by the Micmacs and Acadian French, in the estuaries and lagoons, by torch light, with the Indian spear. This mode of taking eels requires great quickness and dexterity, and a sharp eye. It is pursued with much spirit, as besides the value of the eel, the mode of fishing is very exciting. In winter, eels bury themselves in the muddy parts of rivers; and their haunts, which are generally well known, are called "eel-holes." The mud is thoroughly probed with a five-pronged iron spear, affixed to a long handle, and used through a hole in the ice. When the eels are all taken out of that part within reach of the spear, a fresh hole is cut, and the fishing goes on again, upon new ground.

If a market should be found for this description of fish, they could be furnished to an unlimited extent.

The common flounder is found in such abundance in the Gulf, that it is used largely for manuring land. The writer has seen potatoes being planted in hills, when the only dressing consisted of fresh flounders, which were used with a lavish hand. They are seldom taken by the inhabitants of the Gulf Shore, who can readily obtain so many other descriptions of fish of superior quality. The flounder is long-lived out of the water, and bears land carriage better than most fish; there is no reason, therefore, why flounders should not become a valuable commodity.

That the varied, extensive, and most abundant fisheries of the Gulf of Saint Lawrence, would be greatly influenced by the construction of a Railway along the Eastern Coast of New Brunswick, there cannot be a reasonable doubt; but in all probability, the proposed Railway from Shediac to the Harbour of Saint John, would affect those fisheries in an equal, if not a greater degree.

The hardy and enterprising fishermen of the Bay of Fundy, dread the long and dangerous voyage around the whole Peninsula of Nova Scotia to the fishing grounds of the Gulf, a voyage which frequently lasts three weeks, and is deemed by underwriters equally hazardous with a voyage to Europe; but it is not alone the dangers of the voyage which deters them from the prosecution of these fisheries; it is the great loss of time they occasion, and the expense

they create, as these render the adventure, too often, far from profitable.

A Railway from Shediac to the Port of Saint John, which is open at all seasons of the year, would enable the various products of the fisheries to reach a port of shipment in four hours, and the necessity for the long voyage around Nova Scotia would be wholly obviated. The fishing vessels could winter at any of the ports on the Gulf Shore which they found most convenient; their stores and outfit could be sent up by Railway; and they would, in such case, enjoy the advantage of being on the fishing grounds at the earliest moment in the spring, and the fisherman could protract his labours until winter had again fairly set in.

The fresh salmon, packed in ice, which were sent last season from Saint John to Boston by the Steamers, owing to the facilities of transport in the United States, in three days after they left Saint John, appeared at table, in prime condition, at Albany, Buffalo, Niagara Falls, New York, and Philadelphia. If the salmon of the northern rivers could be transported by railway to Saint John, they would find a ready market in the numerous towns and villages of the United States, and the salmon fishery alone, would prove a perfect mine of wealth to the northern part of the Province.

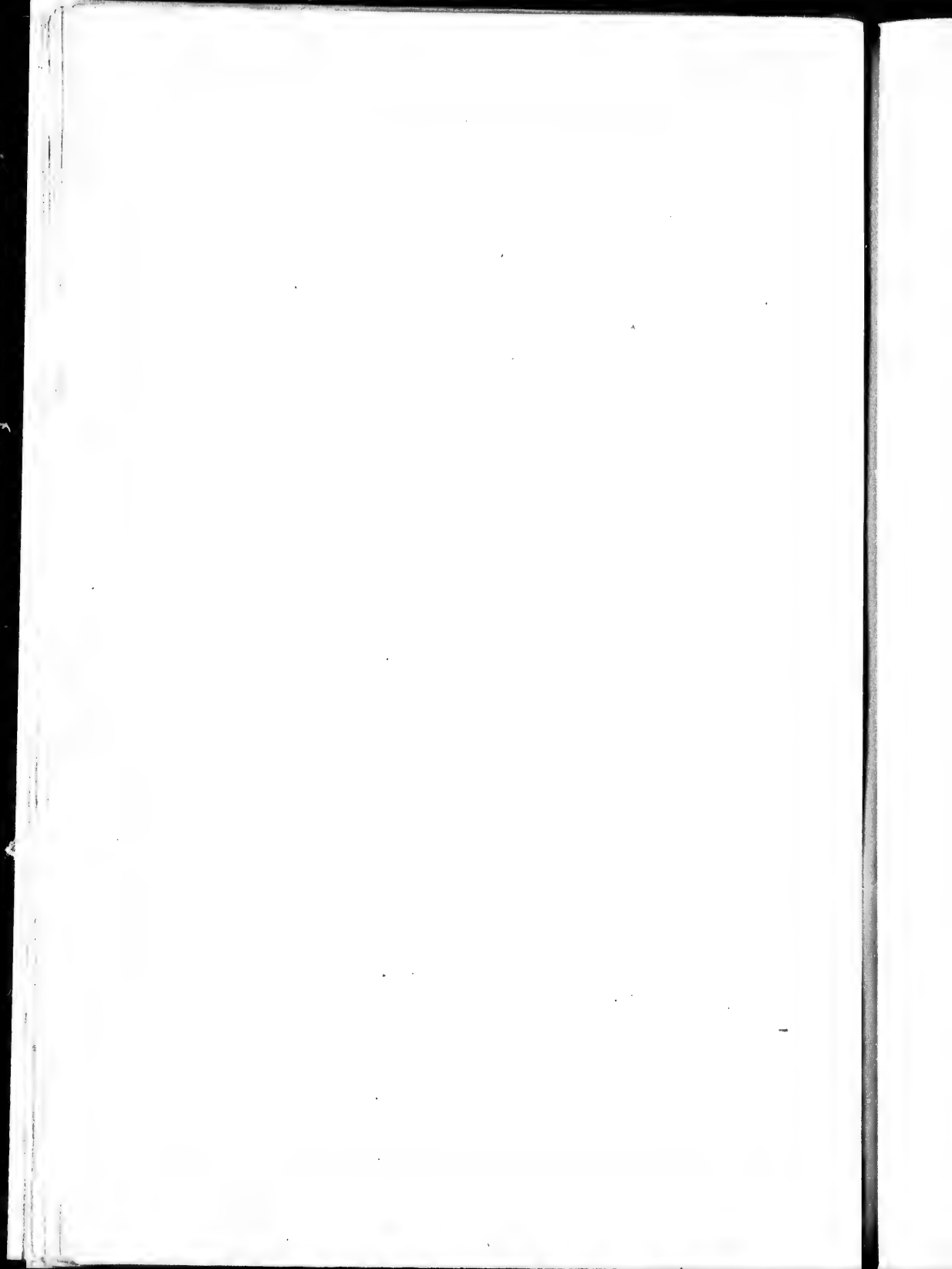
The immense products which might be obtained by a vigorous prosecution of the fisheries for herring, cod, and mackerel, would not only furnish a fruitful source of profit to a railway, but they would afford such an amount of remunerative employment to all the productive classes, as almost to defy calculation. They would enable the Province to open up, and prosecute, a successful trade with several foreign countries, with which, at present, the merchants of New Brunswick have no connection whatever. The farmer also, would be greatly benefited by the extension of the fisheries in connection with the railway, because he would not only find a more ready market for his surplus produce, but he would be furnished with wholesome and nutritious food, at all seasons of the year, on the most reasonable terms.

Aided by railways, the fisheries of the Gulf of Saint Lawrence, now of so little importance, and such limited value, would take rank as one of the highest privileges of New Brunswick—its unfailing source of wealth forever hereafter. And while the efforts of the people were successfully directed towards securing these bounties of Providence, lavished with such unsparing hand, they would rejoice in the goodness of an all-wise Creator, and offer up humble but earnest thanks to Almighty God, for his exceeding goodness and mercy towards his erring and sinful creatures.

M. H. PERLEY,

H. M. Emigration Officer.

*Government Emigration Office,
Saint John, March 5, 1849.*



REPORT

ON

THE SEA AND RIVER FISHERIES OF NEW BRUNSWICK

WITHIN THE GULF OF SAINT LAWRENCE AND BAY OF CHALEUR.

Laid before the House of Assembly by Command of His Excellency the Lieutenant Governor, and ordered to be Printed 18th February 1850.

IN entering upon a description of the Fisheries of New Brunswick within the Gulf of Saint Lawrence, it is necessary to state, that they fall naturally into two districts, separated distinctly by the Miramichi River. To the northward of the Miramichi, the Sea Fisheries are prosecuted in a regular and systematic manner, from permanent Fishing Establishments, technically termed "Rooms," while to the south of the Miramichi, there are no such Establishments, and the Fisheries, which might be prosecuted extensively in that quarter, are only followed in a desultory manner.

This Report will therefore fall under three heads:—

1st. The Sea Fisheries on the coast north of the Miramichi, around the Island of Miscou, and within the Bay of Chaleur, to the Canadian Boundary.

2nd. The Sea Fisheries from the entrance of the Miramichi River southwardly, to the Nova Scotia Boundary.

3rd. The Fisheries in all the Rivers within these two Districts.

The various Fishing Establishments north of the Miramichi, will be first described in the order in which they were visited, with such information as to the Fisheries of the Coast as was obtained on the spot.

THE DISTRICT NORTH OF THE MIRAMICHI.

Portage Island.

On the northern side of Miramichi Bay, at the entrance of the Miramichi River, is Portage Island, which on some of the older maps is called Waltham Island. It is about four miles and a half in length, and nearly a mile in width at its southwestern end, tapering gradually to its northeastern extremity, where it terminates in a long narrow sand-bar.

This Island is yet ungranted. It is low and sandy, much cut up with marshes, swamps and small lakes; a portion of it only is wooded, with dwarf white birch, and scrubby pine and spruce trees.

Near the northeastern end of Portage Island, some buildings were erected about five years ago, with the necessary conveniences for putting up salmon and lobsters, in tin cases hermetically sealed. This station was occupied during the season of 1849, by Mr.

William J. Fraser, of Chatham, who then for the first time set up "fish flakes," and undertook to dry and cure cod, and other fish, caught near this locality.*

When this establishment was visited in August last, it was in charge of George Letson, who furnished the following information in relation to it.

The season for putting up salmon and lobsters was over. There had been twenty two thousand pounds of salmon, and four thousand pounds of lobsters, put up in tin cases, of one pound and two pounds each. The quantity of lobsters put up was much less than usual, owing to the prevalence of cholera in the United States, and the consequent want of a market there.

The salmon put up here were all taken around the Island, and were purchased of the fishermen, by this establishment, at 3d. per pound, fresh caught, with a discount of ten per cent. for cleaning, which was said to be equal to £3 5s. per barrel. The lobsters were chiefly caught by the French inhabitants of the neighbouring Neguac Villages, from whom they were purchased at 2s. 6d. currency, per hundred. They were very plentiful the past season, especially at Black Lands and Tabusintac Gully; and as proof of the ease with which they were taken, it was mentioned that one Frenchman (Victor Savoy) had, unassisted, caught 1200 lobsters in part of one day. There were from twenty to twenty five men employed at the preserving establishment during the season.

Up to the 18th August, there had been seven hundred quintals of cod, ling, and haddock, caught and cured at this "room," to which a considerable addition was anticipated before the close of the season. There were then thirty three boats engaged in fishing at this station, averaging three men to each boat; these were chiefly settlers from the neighbouring shores, who employed the period between seed time and harvest, in following the fisheries. One boat was owned and manned by three Micmac Indians, from Burnt Church Point, and it was stated, that although their boat was an old one, worse rigged and provided than most of the others, yet these Indians would remain on the fishing ground in more severe weather than any other of the fishers, and never returned without a full load of fish.

In the early part of the season, the fishing boats here obtained their fares at no great distance from Portage Island; but as the season advanced, they had to go out, from ten to fifteen miles from the land. In August, they were fishing near Point Escuminac, about twelve miles from Portage Island. These fishermen split and salted their fish in the boats, which usually came into the "room" about twice a week; they were using mackerel and clams as bait, but previously had used herrings. No capelin had come in on this part of the coast.

It was stated, that early in July there were from twenty to thirty sail of American vessels fishing in Miramichi Bay, at the distance of five to ten miles from Portage Island; and that they all obtained! full fares of No. 3 mackerel. One of these schooners entered the

* From 1643 to 1647, Jean Jacques Enaud, a native of the Basque Provinces of France, had an establishment on this Island for taking the morse or walrus, and for prosecuting the fur trade and fisheries.

Miramichi River, and went up as far as Oak Point trading with the settlers for salmon. The master of this vessel exchanged two barrels of superfine flour for each barrel of salmon, but he neither entered, nor paid duties on what he landed. He took the dimensions of the various nets in use, and told the fishermen he would furnish them next year with similar nets, at half the prices they had been accustomed to pay. These American fishing vessels have, during the last three years, traded at Fox Island, on the south side of Miramichi Bay.

On the bar, at the southwest point of Portage Island, was found a hovel occupied by a man and boy; they had been there a fortnight, with nets and lines, but had only caught a barrel and a half of mackerel. These were all the mackerel which had been caught at this station during the season, by the New Brunswick fishermen, except such as had been used for bait. This man and boy had taken some fine fall herring, and a small quantity of gaspereaux, exceedingly fat—so fat that they were boiling the offal in a kettle to extract the oil, which appeared abundant. It was stated here that numerous shoals of large basse were then roving about Fox Island and along the coast, and that they could be, and were, readily taken, even in the day time, by a proper basse spear.

A quantity of coarse bent grass grows on the marshes and beaches of Portage Island; and certain French residents of the Neguac villages, under an old Minute of Council, claim a permissive right to cut and carry away this grass, paying the sum of £5 annually to the Crown.

Presuming upon the permission to cut grass, these parties have, of late years, set up a claim to the fisheries of the Island, and during the past season they actually leased the salmon fishing on its shores to various parties, at rents from £2 10s. upwards. Six of the persons to whom they leased, are persons residing at or near Burnt Church, named Peter Morrison, George Logie, John Davidson, George Davidson, John Anderson, and Alexander Logie. These parties, during the past season, furnished the salmon for Mr. Fraser's preserving establishment. But the most extraordinary part of this affair is the fact, that the Act regulating the fisheries in the County of Northumberland, (29th Geo. 3, c. 5,) positively prohibits any net whatever being set off Waltham or Portage Island; and this salmon fishery has been carried on here in open defiance of the law, and as is alleged, much to the detriment of the salmon fishery of the Miramichi River generally. This case will be found more particularly referred to under the head of River Fisheries of the Miramichi.

Tabusintac Gully.

This Gully, (from the French *goulet*,) is a narrow entrance, between two low sand-bars, into the lagoon of Tabusintac, and through that lagoon to the large river of the same name. The depth of water in this gully is six and a half feet at low water, and eleven feet at high water, an average tide being four and a half feet. The sides of the gully are steep, enabling fishing boats and small vessels to come directly up to the shore.

On the west side of this gully, a fishing "room" was established during the past season by Roderick McLeod, Esquire, of Tabusintac. There were nineteen boats employed, with three men each, fishing here, and Mr. McLeod himself had two small schooners of fifteen tons each. At this "room" there were taken during the season, one hundred barrels of spring herring, five hundred quintals of dry fish, and three hundred barrels of pickled fish, chiefly ling and haddock. Late in the season, Mr. McLeod's vessels were sent to Caraqueet, and they there caught eighty six barrels of the fall herring. This new establishment may therefore be considered to have made a successful commencement. Only five barrels of mackerel were taken during the season; a mackerel seine was provided, but the fish did not come sufficiently near the shore to be taken with it.

It was stated here, that American fishing vessels were frequently seen in the distance, but that they did not come near the shore, owing to the light draught of water.

The fishing boats from this gully went out a long distance towards Escuminac, and caught their fish in 25 fathoms water. They used herrings and mackerel as bait, when they could be procured; but in August, they were using clams. They frequently took halibut of large size, a single fish being sometimes sufficient to fill a barrel.

Tracadys Gully.

The principal entrance to the Tracadys Lagoon and Rivers is at Little Tracadys Gully, in which there is six feet at low water, and nine feet at high water; at spring tides there is ten feet. At this place, Mr. James Young, of Tracadys, has a small fishing station, which employed ten boats, with three men each, up to the 5th August, when the season was closed. The catch was 200 quintals of dry fish.

The Jersey houses, formerly, had an extensive fishing "room" near this gully, at which they caught and cured from 3000 to 4000 quintals of cod annually. The capelin then came in on this part of the coast in great abundance, and they were largely used by the settlers for manuring the land. Apparently this had the effect of breaking up the run of these fish, as now they have almost ceased to appear along this shore. With the disappearance of the capelin, the cod fishery fell off greatly, and about six years since, the Jersey houses found it necessary to break up their establishments here. A very few capelin were seen at this place in the season of 1848, but none whatever in the season of 1849.

At Little Tracadys Gully, a number of the large white sea trout of the Gulf (*salmo trutta marina*,) were taken in nets, during the early part of June last.

Shippagan Gully.

This Gully is at the southern end of Shippagan Island, and between it and the main land. It forms an entrance to Shippagan Harbour, from the Gulf, and has nearly the same depth of water as Little Tracadys Gully.

Just within this gully, on Shippagan Island, in a well sheltered and very convenient position, is the fishing "room" of Messrs. Wm. Fruing & Co., of Jersey, of which Capt. George Alexandre, of Jersey, was found in charge.

At this place there were sixty boats engaged in fishing, averaging two men and a boy to each boat. It was stated, that each of these boats would probably take 100 quintals of fish during the season, but that the boats belonging to the firm, manned by Jersey men, would take more.

On the 21st August there were at this "room," 2,500 quintals of dry fish, exceedingly well cured. On the day it was visited there were 600 quintals of cod spread out to dry; they were exceedingly white and hard, of the finest quality, and were about to be shipped to Naples, for which market the very best fish are required. They are shipped in bulk, and the manner in which they are stowed in the holds of the vessels is very neat and compact. It requires great skill and care to stow them without breaking, and in such manner as to prevent their receiving damage on so long a voyage; but long practice and experience have conquered these difficulties, and cargoes are rarely injured by bad stowage.

The ling cured at this establishment are sent to Cork for the Irish market; and the haddock to the Brazils. The first quality cod cured here in 1848, instead of being sent to Naples were shipped to the Mauritius; it was not stated what success had attended this adventure.

Nearly all the fishermen at this establishment were French settlers, who had small farms, or patches of land, somewhere in the vicinity, which they cultivated. It was the opinion of Captain Alexandre, that the fishermen here could not live unless they possessed land, and obtained something from the soil; if they did not, they nearly starved. Those who are too poor to own boats hire them of the firm for the season, that is, until the 15th August, when the summer fishing ends. If the boats are used for the autumn or "fall" fishing, there is, of course, another hiring.

The fishing usually continues until the 15th October, and it was expected that the whole catch of the season of 1849 would amount to 3,500 quintals—if the weather proved favourable, probably 4,000 quintals.

The boats come in here directly to the "stage head," upon which the fish are thrown; they are at once split and cleaned by the fishermen, on tables provided for the purpose; and 300lb of fish, fresh from the knife, are weighed off as sufficient to make a quintal of dry fish, with the allowance of one-tenth for the curer. If the fish are split and salted in the boats, and lay one night, then 252lb are weighed as a quintal. The fishermen are allowed for a quintal of cod thus weighed, ten shillings, and for ling and haddock, five shillings,—the amount payable in goods at the store of the firm, on Point Amacque, where a large quantity of foreign goods is kept, of every variety. Here were found Jersey hose and stockings—Irish butter—Cuba molasses—Naples biscuit, of half a pound each—Brazilian sugar—Sicilian lemons—Neapolitan brandy—American tobacco—with English, Dutch, and German goods,—

but nothing of Colonial produce or manufacture, except Canadian pork and flour.

Some of the residents at Shippagan, who are in more independent circumstances, prosecute the fisheries in connection with their farming, curing the fish themselves, and disposing of them at the close of the season to the Jersey merchants, or to others, as they see fit. Of this class is Monsieur Leon Robicheaux, who is mentioned in the Report of last year. He has a good farm on Shippagan Island; the past season he planted forty nine barrels of potatoes, as also wheat, oats, and barley, the whole of which promised to yield an abundant return. Besides these farming operations, Monsieur Robicheaux and his family, caught and cured during the season, two hundred and fifty quintals of dry fish—in all twenty four thousand fish, the whole taken in twenty five to forty fathoms of water. For these, well cured and of the best quality, Mons. R. would receive from the Jersey merchants, in cash, for cod, 12s., ling, 6s., and haddock, 5s. per quintal. They also took thirty barrels of spring herrings, twelve large halibut, and four barrels of mackerel; this small quantity of the latter being merely the surplus beyond what Mons. R. required for bait, for which alone they were caught. Mons. Robicheaux stated, that a large salmon had been taken, only a week previously, (22d August) on a cod line, from one of his boats; and he expressed an opinion, that there were many salmon roving along the shores of Miscou, during the season. This opinion was subsequently found to be correct.

At this place a large clam, or rather mussel, was exhibited, which had been taken from the stomach of a cod. The shell was of a dark blue colour; the flesh was light red, and it protruded much beyond the shell—it cut like meat, which it greatly resembled. These shell fish are said to exist only in very deep water; wherever they are found, there is always plenty of cod, which are said to be exceedingly fond of them, and to prefer them as bait to almost any other thing which can be used.

It was stated that the settlers on Shippagan Island, used five hundred barrels of spring herrings, as manure, the past season.

Miscou Island.

This Island lies at the northeasternmost extremity of New Brunswick, at the entrance into the Bay of Chaleur. It is about nine miles in length, and four in width, at its broadest part. The whole of it is very low, and its greater portion consists of cariboo bogs, mossy swamps, small lakes, salt marshes, and sand plains; the two latter producing a scanty growth of wild grass. There are however, some small tracts of land upon it fit for agricultural pursuits, and these have been granted to Mr. Andrew Wilson, and Mr. John Marks, who reside upon their lands. But wild, barren, and almost desolate as is this Island of Miscou, yet it is an admirable station for the fisheries; its value in this respect was well known more than two centuries ago to the French, in whose history it has a conspicuous position. About the year 1635, a company was established in France for the purpose of carrying

on the fur trade and fisheries in the Gulf of Saint Lawrence, of which, the King of France was at the head. It was called the "Royal Company of Miscou," and it had extensive powers and privileges. The principal station of the company was on the Island of Miscou, within the harbour of Little Shippagan, which is formed between the Islands of Shippagan and Miscou, where it is said some of the foundations of the company's buildings are yet to be seen. The principal pursuit of the company of Miscou, was the taking of the morse or walrus, whose favourite *echouage*, or strand, was near Point Miscou, the northeastern extremity of the Island. These huge animals were valuable for their skins and the oil they furnished, as also for the ivory of their tusks. They were frequently killed by three and four hundred at a time, and their destruction was carried on so unremittingly, and with such success; that they have become wholly extinct at Miscou.

On visiting the *echouage*, or place where the walrus were formerly slain in such numbers, a little to the westward of Point Miscou, it was found that the ancient beach is now nearly a quarter of a mile from the sea; a long strip of sand plain, covered with coarse grass and a great abundance of cranberries, at this time intervenes between the present sea-beach and the former strand. This strip of recent formation is called the *Grande Plaine*; and the curving shore in its front is called by the fishermen *L'Ance à Grande Plaine*. On examining the ancient shore, near the outer edge of a belt of small spruce and fir trees, the bones of the walrus which had formerly been slain there, were found imbedded in the sand in large quantities, and in good preservation, some of the skeletons being quite complete.

The harbour of Little Shippagan is an exceedingly good one, and well sheltered; it is much resorted to by American fishing vessels during heavy easterly storms, and as many as ninety sail of these vessels have been observed in this harbour at one time.—The entrance from the Gulf is by a small gully, in which there is only eight feet at low water and twelve feet at high water, in ordinary tides. This passage is only used by fishing boats and small craft. The principal entrance is from the Bay of Chaleur; it is about half a mile in width, with eight fathoms at low water, which depth is maintained well into the harbour, where the channel becomes narrow, with perpendicular sides, yet still very deep. This excellent harbour is of great use and importance to the numerous fishing vessels frequenting the Gulf, and the Bay of Chaleur.

Mr. Andrew Wilson's Establishment.

The farm of Mr. Wilson is on Miscou Island, a short distance to the eastward of Little Shippagan Gully, into which his fishing boats run for shelter; within the gully, on the Miscou side, he has for several years occupied a convenient place for curing fish. The soil here, although light and sandy, yields good crops. There were, on the 23rd August, several fine fields of oats, and some good wheat. The quantity of potatoes planted was 70 barrels, and nothing could be finer than the appearance of this crop, which

promised an abundant yield. It was stated by Mr. Wilson, that in former years his potatoes had been but slightly affected with the potato disease, and that his crop of this vegetable was generally good. He keeps 70 sheep, and the mutton is peculiarly fine, owing to the character of the wild grasses on which his sheep are pastured.

Mr. Wilson is an emigrant from Aberdeen, in Scotland, who has been settled on this Island upwards of sixteen years. He has a family of eight sons and two daughters, all residing with him; from their unceasing industry and economy, this large family is now living in much comfort, and apparently becoming quite independent. Mr. Wilson himself is a person of intelligence and observation, and he furnished much information as to the Island of Miscou, and its fisheries, which is here embodied.

The family has three boats, manned by six of the sons; up to the 23rd of August last, they had caught and cured 200 quintals of dry fish, besides 140 barrels of herrings. Last spring, the herrings came in much earlier, and in greater quantities than were ever known before. Mr. Wilson said, that when he put out his nets on the 15th of May last, they became so completely filled with herring, that he could not lift them out again. He cured as many as he could with all the salt at that time to be had. The fish were in such abundance, and so close to the shore, that they came rolling in with the breakers in masses, and were picked up along the strand by the children.

It was stated by Mr. Wilson, as also by other persons along the coast, that none of the Jersey houses would furnish salt, even to their best customers, to cure herring, mackerel, or any pickled fish; and that they discouraged the catching and curing of all fish, except such as were dried and fit for the foreign markets already mentioned. This was assigned as one reason why the valuable herring and mackerel fisheries on this coast are not more extensively prosecuted.

During the time Mr. Wilson has resided at Miscou, he never knew the herring fail in any spring, but they were more abundant the last season than he ever knew them before. Many herring fishers from the main land resort to this Island every spring; but it is thought that not more than one-tenth of the fish they take are salted, the remaining nine-tenths being put on the fields as manure.

There has always been a good supply of capelin at Miscou until the last two seasons, during which very few have been seen; but this falling off is supposed to be only temporary or accidental. It is said that when capelin are plentiful at Miscou, they are scarce at Labrador, and *vice versa*. The past season capelin were unusually abundant at Labrador, and the fishing there, in consequence, was better than usual. Some of the boats that were there, with two men only, caught 100 quintals each boat in twelve days. At Labrador, one hundred cod of eighteen inches each in length, are accounted a quintal.

The ice usually clears away from the shores of Miscou at the latter part of March or early in April. During some winters the open water is seen at all times; but if easterly winds prevail the ice is driven in, and closes the coast. The fishermen sometimes

go out in April in small boats to take seals among the ice in the Gulf, and it is said that they succeed well in proportion to their outfit.

When the spring herring come to the shore, the cod, which follow them in, are taken at a very short distance from the land. As the season advances, the cod retire to the deeper water; in August the best fishing was at fifteen miles from the shore, or even more.

Mr. Wilson's farm is bounded to the northeastward by a salt water lake, called Grand Mal-Bay, which communicates with the Gulf by a very narrow gully through the sand reef, or sea wall, which separates the lake from the gulf. Mr. Wilson stated, that some years since a run of cod entered Mal-Bay through the gully, and as a large portion of this lake is dry at low water, about ten thousand codfish were then left dry. Of these Mr. Wilson secured about one thousand, which he cleaned and cured; he was unable to take any more from the want of assistance, and the rest of the fish spoiled and were lost. On another occasion, he surrounded, and took at one haul of his net, the whole of a "schull" of basse, 570 in number, weighing from 4lbs. to 8lbs. each. In this Mal-Bay, there is always during the season a great abundance and variety of wild fowl; in August, black ducks and large plover were observed in very large flocks. In the latter part of every season the sons of Mr. Wilson are accustomed to shoot, at this place, from 300 to 400 wild geese, for which sport they have proper decoys and large guns; the feathers are valuable, and the bodies of the geese, then in fine condition, are frozen down for winter use.

A small fat herring comes in on this coast at the end of June, and remains all the season. They are caught at various distances, from half a mile to 20 miles from the shore, in a net with a mesh of one inch and a quarter. These fish are quite distinct and altogether different from the spring herring, or the "fall" herring. The latter are usually caught in nets with a mesh of one inch and three quarters, but the finest are taken in mackerel nets, with a mesh of two inches and a half.

In corroboration of the testimony of Monsieur Leon Robicheaux, that salmon were roving about Miscon, Mr. Wilson mentioned, that by way of experiment he put out a small salmon net last June, and caught altogether twelve salmon; the largest fish weighed eighteen pounds, and the weight of the whole was 141 pounds. In the same net he also took seven mackerel of very large size, two sturgeon, two shad, and more than a dozen of the large white trout of the Gulf. During the last week in August there were many basse along the shore, very fat and in fine condition. Mr. Wilson said that when salted these fish are nearly as good as salmon for winter use. Halibut of large size are said to be abundant at this locality.

From the point south of Little Shippagan Gully, which is named "Pidgeon Hill," to Point Miscon, the shore has a general curve inward, forming a sort of bight in front of Mr. Wilson's farm. This bight is much frequented by American schooners fishing for mackerel. They entice the mackerel to the surface by bait

out up by the bait-mill, (as described in the Report of 1849), and they are sometimes so abundant here that the "jig" even is not used. One of Mr. Wilson's sons said he had seen the mackerel almost in a solid mass alongside one of these American schooners, the crew of which were lifting them in very rapidly with iron wires, about three feet in length, having a hook at the extremity, which were fastened to a wooden staff, or handle, of about the same length. These schooners have been known to make full fares of mackerel here in nine days. Since the Americans began taking these fish in such quantities, they have become more scarce, or rather the resident fishermen are unable to take them, owing to their imperfect tackle, and antiquated mode of fishing.

Mr. Wilson is clearly of opinion that it would be far better for the resident fishermen if the American fishers were allowed to land on these shores, for the purpose of cleaning and curing their fish, than to compel them, as at present, to clean their fish on the fishing grounds, where the bones and offal seriously injure the fisheries—he says, they should either be excluded altogether from the Gulf, or else allowed to land upon its shores. He conceives that great good would arise, both to the herring and mackerel fisheries, and much improvement, if the Americans were allowed to establish stations on the shores of New Brunswick, for prosecuting those fisheries. The benefits of competition were also alluded to by Mr. Wilson, who said—"the Jersey houses exact too large profits, and keep the fishers in poverty; they look only to one branch of fishing, and discourage all others."

Point Miscou.

About four miles to the northeastward of Mr. Wilson's farm, and near to Point Miscou, are two fishing "rooms" belonging to the Jersey houses of Fruing & Co., and LeBoutillier Brothers.

The first of these "rooms," belonging to Fruing & Co., is very close to the sea-beach, with an open road-stead in front, and a heavy sea rolling in with any wind from the eastward between north and south. It was found in charge of Mr. DeCarteret, acting under the orders of Messrs. Alexandre at Shippagan.

This establishment employs twenty boats, having two men each; on the 24th of August, there was on hand 1100 quintals of dry fish, and it was expected there would be 300 quintals more caught and cured before the season closed. There was no pickled fish at this "room."

Mr. DeCarteret stated, that an American vessel fishing off Point Miscou, a week previously, and having on board nearly a full fare of cod, had found the mackerel in such extraordinary abundance, that the crew had thrown overboard one hundred and fifty quintals of green fish, in order to make room for mackerel, with which the vessel had been quickly filled up.

The "room" of Messieurs LeBoutillier is the nearest to Point Miscou, and was found in charge of Mr. LeBas. The buildings here are well and substantially built; they were in excellent order outside, and very cleanly within. The fish flakes are on a piece of ground neatly levelled, and now in grass; it is surrounded

with high pallisades, as well to keep off marauders, as to prevent the loose sand from drifting in upon the fish while drying.

At this "room" there were also twenty boats engaged, having two men each; they had taken 1200 quintals of fish, and were expected to take 300 quintals more before the season closed.

Mr. LeBas stated, that the Americans had injured the cod fishing by glutting the mackerel, so that a sufficient quantity could not be caught for bait; and that this, added to the failure of the capelin, had caused a great diminution in the cod fishing at Miscou. Other baits being scarce in August, smelts were used, which were taken by a seine. While the writer was at this "room," the seine was hauled three times, and besides securing a supply of very fine smelts, it brought on shore small cod and ling, flounders, one plaice, many crabs, sculpins or *crapaud de mer*, and lobsters of all sizes in abundance. At an earlier period in the season, Mr. LeBas said, the seine brought on shore large quantities of shrimps, which were turned out again as being of no use.

Although the beach in front of Messieurs LeBoutillier's "room" is a little sheltered by two gravelly sand spits, which run out a short distance from the land, yet it is much exposed to easterly gales, and a very heavy sea then comes tumbling in. At such times the fishing boats are moored outside the outermost roller, with the masts struck and all made snug to ride out the gale; or else they are beached, and hauled up above high water mark.—Except when the wind is off shore, there is much difficulty in landing supplies here, which are chiefly furnished from Messieurs LeBoutillier's principal establishment at Paspebiac in Gasp.

The extreme point of Miscou was granted some years since to Peter John Duval, of Jersey, after which it was occupied by his agent Mr. Falle, as a fishing station. The grant includes a wide, shallow, salt water lake, similar to Mal-Bay, designated on the plan "Munroe's Lake," but by the residents it is called "Frye's Lake." The gully through the sea wall, by which this lake communicated with the Gulf, was formerly at its southern extremity, but this is now filled up; and where Mr. Falle's "stage head" formerly stood in deep water, there was, last season, a field of barley growing luxuriantly. The gully, or outlet of the lake, is now at its northern end, very near the extremity of Point Miscou.

The grantee of this property and his agent are both dead, and it is said to be owned at present by some person in Jersey. It is not occupied as a fishing station, and in its present position, is in the way of others who wish to carry on the fisheries. This unfortunate and improvident grant should serve as a caution to prevent similar grants hereafter, by which valuable and desirable fishing stations may thus be shut up and rendered useless.

The Settlers on Miscou.

The "fishing rooms" at Miscou are shut up in the winter season, and left in charge of one of the residents, who is called the "room keeper." The Jersey men employed here during the summer, either return to Jersey for the winter, or go to the Mediterranean in the vessels which take the dried fish to the markets

there, returning to their posts in the spring. They are completely birds of passage, having no tie in this Province, or any interest in its general prosperity. The actual residents on Miscou number one hundred and twenty five souls, and are thus described—

On the Gulf Shore,	Andrew Wilson and family,	16
Little Shippagan Harbour,	Robert Harper,	6
“ “	John Marks,	6
Point Miscou, at <i>Grande Plaine</i> ,	John LeCoutre,	6
“ “	George Sevet,	6
“ “	Teton Chasseau,	6
At Frye's Lake,	Louis Gautier,	11
East of Point Miscou,	Josiah Ward,	6
“ “	Francis Bezeau,	7
“ “	William Ward,	10
“ “	Michael Ward,	5
“ “	Peter Bezeau,	6
“ “	George Brown,	10
“ “	Michael Plaw,	3
“ “	John Vibert,	6
“ “	James Ward,	9
“ “	Pierre Dupuits,	5
“ “	John Burns, (single)	1

Total number of souls, 125

The settlers in Little Shippagan Harbour do not follow fishing, but attend to the cultivation of the land, some of which is there tolerably good.

The settlers at Point Miscou are all fishermen, who are employed every season at the fishing stations, to which they are more or less in debt. Their houses are built of logs and poles; these are small, and very ill fitted to resist the severity of the climate. They cultivate little patches of ground, in a very imperfect manner; the manure used is generally cods heads. They are all squatters on Crown Lands, and appear very anxious to procure some title to occupy their several locations, either by licence of occupation or otherwise. While the writer was at Miscou they prepared the petition which is annexed to this Report, praying such licences of occupation, with privilege of the beaches in front of their locations; and also some arrangements with respect to the wild grass on the marshes and beaches of the Island.

The petitioners stated, as a great hardship, that the wild meadows in the County of Gloucester are sold every season at Bathurst, where they are unable to attend, at a nominal sum;* that those on Miscou are purchased for a few shillings by one of the Jersey merchants, who charges them ten shillings per ton for the marsh hay, and five shillings per ton for the beach grass, which the fishermen themselves cut and cure. To these terms they must submit, or else they can make no provision for their cows, by which they endeavour to eke out a miserable subsistence during the winter.

* The whole of the wild meadows in the County of Gloucester were sold in 1848 for one pound only.—See Appendix to Journals of the Assembly for 1849.

To account for their abject poverty, they furnished the following statement, of the rates at which they were paid for the fish they caught:—

For 252lbs. of cod, fresh from the knife, (supposed equal to a quintal of dried fish,) 8s. ; for the like quantity of ling or haddock, 4s. These rates are paid in supplies at the following prices: For Canadian fine flour, 5ls. per barrel ; for pork, (very poor,) 10d. per lb ; molasses, 3s. 6d. per gallon ; tobacco, 1s. 9d. per lb ; men's coarse shoes, 14s. per pair ; coarse calicoes, 1s. 3d. per yard ; tea, (very inferior quality) 4s. per lb ; other articles in proportion. For any supplies advanced in the winter or spring, 15 per cent. additional is charged.

The settler at Frye's Lake, Louis Gautier, has a wife and nine children, a very handsome and healthy family. Gautier himself is a fine figure of a man, and an excellent specimen of the French veteran soldier. He belonged in former days to the grand army of France, under Napoleon, and served in the 69th Regiment of the line, which was in Marshall Ney's Division at Waterloo, where Gautier's military services ended. His house, which is very slight, contains but a single room, in the centre of which is a Canadian stove ; there is a bedstead in one corner for Gautier and his wife—the children "encamp" around the stove, as they may. The house, when visited, was a perfect pattern of cleanliness, and the few articles it contained were arranged with true military precision. There was part of an acre of ground in cultivation ; but weeds and thistles were more abundant than the crop. The situation of this settler will give a general idea of the position of the whole, except as to cleanliness.

All the settlers at Point Miscou complained bitterly of their poverty, and state of bondage. They said they were completely in the hands of the Jersey merchants, to whom they were indebted, and who dictated their own prices and terms of dealing. They appeared to feel very much the want of a school ; and they stated the surprising fact, that they had never been visited by priest or clergyman of any denomination. The children are growing up unbaptised, and in total ignorance ; this state of things ought not longer to exist in a christian community which patronizes foreign missions. Their excellent health requires no aid from the physician ; but they desire a resident magistrate to enforce the laws and maintain good order at all times, but more especially during the fishing season, when the Island is the resort of many lawless fishers from abroad.

The general voice indicated Mr. Wilson as a fit and proper person ; he is highly respected, and if he accepted the office, would perform the duties of a magistrate fearlessly and faithfully.

The absolute state of serfdom of the fishermen of Point Miscou has been particularly described, because there are like bodies of fishermen at other localities in the northern part of the Province, who are held in nearly the same state of poverty and bondage. The more favoured inhabitants of New Brunswick, who dwell at a distance from its remote northern shores, will no doubt be surprised to learn, that there are any of their fellow subjects, dwelling

in the same colony, who are even in a worse position than southern slaves, and of whose moral, physical, and spiritual wants, less care has been taken.

Shippagan Island.

This Island is about twelve miles in length, and from three to seven miles in width. A small proportion of it only is granted, but the shores, in every part where the land appears at all susceptible of cultivation, are settled by persons who are presumed to be squatters, as their locations appear by the official plan to be ungranted. The Island is all very low land, rising but little above the sea, and like Miscou, a large portion of its surface consists of bogs, barrens, swamps, and marshes, with many small shallow lakes, much frequented by waterfowl, which breed in the interior and unfrequented parts of the Island. Like Miscou also, it produces large quantities of cranberries, blueberries, and a variety of other wild fruits, of large size and fine flavour.

Off the western part of this Island, within the Bay of Chaleur, there is an extensive shallow flat, extending nearly two miles from the land, called the *Grand Batture*. On this flat there are numerous large blocks or boulders of granite firmly imbedded, which render it dangerous to cross, even with a fishing boat; the wreck of a fishing boat was noticed upon it when the writer crossed in his canoe. These boulders are brought over from the wild and mountainous shores of Gaspé, directly across the Bay, by the huge masses of floating ice driven over by the northerly gales, which ground upon the *Grand Batture*, and there melting, add the rocks they bring to those already deposited. With reference to this moving of rocks by ice, Mr. Wilson mentioned that there was formerly a very large rock directly in front of his landing place at Miscou, which was much in the way of his boats, and against which, in stormy weather, they had often received damage. But the severe winter of 1848-9, caused the ice to attain an unusual strength and thickness near the shores of Miscou; and when it moved off last spring, it carried off this large rock, to deposit it where, he hoped, it would be less troublesome.

Great Shippagan Harbour.

This spaciour harbour is formed between Shippagan and Pocksoudie Islands, and the main land. It comprises three large and commodious harbours; first—the great inlet of Amacque, in Shippagan Island, the depth of water into which is from five to six fathoms; second—the extensive and well sheltered sheet of water called “Saint Simon’s Inlet,” the channel leading into which, between Pocksoudie Island and the main, is one mile in width, with seven fathoms water from side to side; and third—the middle channel, between Shippagan Island and the main land, which runs through from the Bay of Chaleur to the Gulf of Saint Lawrence. The entrance into this channel, from the Gulf, is by Shippagan Gully, already mentioned, which will not with safety admit vessels drawing more than seven feet water, that being the depth on the bar at low water; but the principal entrance from the Bay of Chaleur has not less than five fathoms on the bar, inside which,

within the harbour, there is six and seven fathoms up to the usual loading place, in front of Messrs. Moore and Harding's steam saw-mill, at the village; from thence to the gully there is about three fathoms only. Vessels within the harbour of Shippagan have good anchorage, are quite safe with every wind, and can load in the strongest gale; the rise and fall of tide is about seven feet.

This fine harbour offers peculiar facilities for prosecuting the fisheries, as the fishing boats have the advantage of two entrances by which they can enter or depart with any wind, and resort either to the fishing grounds of the Gulf, or those of the Bay of Chaleur, as best suits their interest or convenience. There is every facility for fishing boats to come up to the shores to discharge their fares, and fish flakes may be set up every where, without inconvenience.

The noble haven called "Saint Simon's Inlet," the shores of which are almost wholly unsettled and in a wilderness state, runs several miles into the land, maintaining a good depth of water almost to its western extremity. From this extremity, where navigable, it is little more than a mile to the navigable waters of Pokemouche River. The two waters are separated by a deep peat-bog, nearly destitute of trees; and it has been proposed to connect them by a canal through the bog, which it is supposed might be cut at no very great expense. There is much good land on the banks of the Pokemouche River, upon which there are as yet but few settlers. It is difficult and somewhat dangerous, even for small craft, to get into this river from the sea. The gully is very narrow and crooked, and there is but six feet water on the bar—vessels cannot load outside, there being only an open roadstead wholly exposed.

The logs and timber cut on the Pokemouche River are made up into long rafts, and when there is a favourable opportunity with the wind off the shore, they are towed along the beach by several pairs of oxen to Shippagan Gully, from whence they go up to the steam-mill with the tide. If the wind or sea rises while the rafts are being towed, they are occasionally broken up, when labour and expense are incurred in putting them together again.

If Pokemouche River emptied into Shippagan Harbour, or if it could now be connected with it by a sufficient channel, great advantages would arise to the timber trade and fisheries, while the agricultural improvement of a large tract of country would be specially promoted. Shippagan Harbour wants a river—Pokemouche River wants a harbour—it is highly desirable that the two should be brought into connection.

Caraquet Bay.

The Bay lies to the northward of Shippagan Harbour, the entrance being between Pocksoudie Island and Mizzinette. In this entrance is Caraquet Island, which is about three miles in length, and one and a quarter in width at its widest part. There is a deep but intricate channel on the southeastern side of this Island, leading to the harbour, inside which there is good anchorage, well sheltered.

Along the south side of Caraquet Bay the land is all settled, and under tolerably good cultivation; from the sea, the settlement looks like a long straggling village. The inhabitants, with very few exceptions, are all Acadian French. The first settlers were from France, who established themselves here in the year 1638, very shortly after the formation of the "Royal Company of Mis-cou." The soil in general is very fertile, and produces good crops of grain, especially wheat, the atmosphere being dry and pure—fogs are almost unknown in the Gulf of Saint Lawrence and Bay of Chaleur.

Very many of the inhabitants of Caraquet follow fishing as well as farming, but as they are more easy in their circumstances, they are not so much under the control of the great fishing houses as the poorer class of fishermen. They generally cure their own fish.

The following information was furnished at Caraquet by James Blackhall, Esq., J. P., and Mr. Mackintosh, a merchant there, engaged in the fisheries.

From "Saint Simon's Inlet" to "Point Mizzinette," which includes the whole settlement, or Caraquet proper, there are two hundred fishing boats, with two men each, and some boys. The average catch of these boats is fifty quintals of fish during the season. They take besides, large quantities of spring and fall herrings; the former are chiefly used as manure, the latter are exceedingly fine, perhaps as fine as can be found any where of the herring tribe. Gaspereaux are caught also; late in the season they are an exceedingly fat fish, well flavoured; the only objection to them is their oily richness.

The fall herrings are taken at night; they are "gibbed" when brought on shore the following day, and salted in puncheons. At the end of three days the pickle is changed, fresh pickle being then put on. About a week after this, or at convenience, they are packed off in barrels for market. They are packed just as they come to hand; they are not sorted or selected in any way. Large and small, broken and damaged fish are all put up together.

The herring nets in use at Caraquet are from 30 to 40 fathoms long and 80 meshes in depth; the mesh is $2\frac{1}{4}$ or $2\frac{1}{2}$ inches. Each boat has generally two nets, seldom more. No more fall herrings are caught than are needed for home consumption.

Mr. Mackintosh stated, that he has shipped fall herrings to Quebec, and the price at which they sold there was just equal to the freight from Caraquet. The reason was obvious; the fish were not properly cured, assorted, or packed.

Very few mackerel were taken in Caraquet Bay during the past season by the fishers there. Early in August the American schooners were fishing for mackerel off Point Mizzinette, where they obtained full fares in a short time.

The practice of cleaning fish on the fishing grounds, and throwing over the bones and offal, was strongly reprobated by Mr. Mackintosh, as highly injurious to the cod fishery.

The long established and wealthy Jersey firm of Charles Robin & Co., whose principal establishment is at Paspebiac, in Gaspé, have a station at Caraquet, of which Mr. Briard was in charge.

The buildings, and every thing else connected with this station, were in that perfectly complete and excellent state which marks all the establishments of Robin & Co.

They here take in fish from the inhabitants at the following rates:—best cod at 16s. per quintal; haddock, 6s. per quintal. They do not take ling at any rate, nor do they deal in pickled fish. The prices mentioned are paid in goods, thus—Flour (not superfine) 45s. per barrel; pork, 8d. per lb.; molasses, 2s. 10d. per gallon; tobacco, 1s. 4d. per lb.; men's shoes, 11s. per pair. They do not sell any tea, that being an article rarely used in Caraquet.

Very fair oysters are found in Caraquet Bay and Saint Simon's Inlet, but those in Caraquet Bay are said to be the best. Of these several thousand bushels are sent annually to Quebec in schooners; a small quantity only was sent the past season, owing to the existence of the cholera there, and the consequent want of a market.

At day break on the 29th August, the writer crossed that part of Caraquet Bay between Caraquet Island and Point Mizzinette, which is the best ground for herring fishing. On this "herring-bank," as it is termed, there were then 160 fishing boats, which had just taken up their nets after the night's fishing. They had not been very successful; the night had been clear and calm, and a dark night, with a fresh breeze, is the best for herring fishing. The largest quantity taken by any of these boats during the night was six barrels; the fish were in the very best condition, and their excellence could scarcely be equalled, certainly not surpassed, by herrings any where. The fishermen appeared to have no idea that the herring swims at various depths below the surface, according to the wind, the tide, and the situation of their food. They all fished their nets fastened to a buoy-rope, supported by floats on the surface; if the run of the fish happened to be below the depth of the net, they were of course missed altogether; and although there may be abundance of fish, yet the fishers, from the want of knowledge or skill, must be frequently unsuccessful. The fresh herrings are sold to purchasers from 2s. 6d. to 3s. per barrel; three barrels of round herrings will make two barrels when cleaned and salted.

On the 12th September, there were 280 fishing boats on this bank, collected from all parts of the neighbouring coasts. At the close of the season, the herring fishing was said not to have been good, less than the usual quantity being taken. The fish made their appearance on the 20th of August, previous to which not even a single one had been taken; there did not appear to be any deficiency in the numbers, and the failure of the fishery may to a certain extent be attributed to a want of knowledge of the habits of the fish, and also of the manner of using nets in deep water, so successfully practised by the herring fishers of Loch Fyne.

The writer had an opportunity at Caraquet, of seeing the manner in which herrings were treated after being caught. The nights' fishing being over, the boats made their way to the shore, each to its own landing. The fishers had, in the first place, to get their breakfasts; after which it was absolutely necessary they should smoke their pipes. Having been out all night, a little sleep was indispensable; and, in too many cases, the fish lay in the boats

or on the shore, nearly all the day, sweltering under a broiling sun. In the afternoon perhaps, they were "gibbed" and salted, but by this time the process of decomposition had actually commenced, and the fine flavour of the fish was utterly lost.

When it is recollected that the Dutch mode of curing, so successfully adopted in Scotland, requires that the herrings, immediately on being caught, should be bled, gutted, cleaned, salted, and barrelled; that by being bled, the herrings retain a sweetness of flavour and delicacy of flesh which unbled herrings cannot possibly possess; and that the rapidity of the process of curing likewise aids in preserving the native delicacy of the animal; it cannot be expected that Caraquet herrings, excellent as they are when first taken from the water, should possess any flavour when salted, or have any commercial value.

The manner in which these herrings are treated, is almost an absolute waste of the bounties of Providence.

Grande Ance.

On leaving Caraquet Bay, and rounding Point Mizzinette, to proceed up the Bay of Chaleur, the shores are found to consist of grey sand-stone, rising abruptly from the water, with but few and narrow beaches. Thus the shores continue to Grand Ance, which is a long narrow beach in a slight indentation of the coast. There were there thirty boats engaged in fishing here last August, with two men each. The fishing ground is directly in front of Grand Ance, within three miles of the shore; and the average catch of these boats is from 70 to 80 quintals each during the season.

There were several persons here taking in fish from the resident fishermen. The principal of these was Mr. Alexandre, son of Captain Joshua Alexandre, of Shippagan and Jersey.

The rates allowed the fishermen last season were as follows:—for green cod, fresh from the knife, ten shillings for 300 lbs.; for ling and haddock, five shillings for 300 lbs. These rates were paid in goods and supplies, at fishermen's prices.

Six or seven American schooners had been cruising off Grande Ance in the earlier part of the season, mackerel fishing; they had all taken full fares and left the coast. They frequently came in close to the shore. While they were using their peculiar mode of fishing, the cod fishers could not procure any mackerel for bait, and their fishing suffered in consequence, there being no clams here. The Americans having left, the fishers were fitting up mackerel nets for use; these were 20 fathoms long and 3 fathoms deep, with a mesh of 3 inches. It was said that nets 5 fathoms deep were better than those of 3 fathoms.

This cove is greatly exposed to almost every wind from the northward, when a heavy sea comes in on the beach. At such times the boats are beached, and hauled up above high water mark by men and horses, the shore being somewhat steep. A break-water and landing pier at this place would be of essential service to the fishermen, and greatly advance the fisheries.

Teague's Brook.

From Grande Ance to Teague's Brook the coast consists of a range of sand-stone cliffs, rising nearly perpendicular from the water to the height of eighty and one hundred feet, and even more. There are two or three small coves or indents in the cliffs at Pokeshaw, where boats may land, but these landing places are not safe with the wind on shore. At Teague's Brook, (between which and Bathurst Harbour lies Salmon Beach,) the shore is less elevated, and slopes gradually back from the water. There is no harbour or shelter even for boats along this line of coast, and a breakwater and landing place at Teague's Brook would make a good fishing station there, and be of great service to the farmers on the coast, by giving facilities for shipping agricultural produce, which they now greatly need.

Petit Rocher.

This settlement is on the Bay of Chaleur, about 12 miles beyond Bathurst Harbour, and on the whole of the long line of coast from Grande Ance to this Point there is not a single fishing station. This is chiefly owing to the mural cliffs which border a large portion of the coast, and to the absence of landing places and boat harbours which would afford shelter in stormy weather. Much good fishing is here neglected and almost entirely lost, no measures having been taken to create those facilities, and give that shelter from the storm which nature has provided elsewhere for the hardy fisherman. It is true that there is good shelter at Bathurst Harbour, but it has not been found a convenient station for prosecuting the fisheries. At Petit Rocher there is a neat fishing station belonging to Mr. John Woolner, of Bathurst, who calls his place "Point Medisco," that being the name it bears on the ancient charts.

On this line of coast, (from Bathurst to Green Point,) there are forty fishing boats, with two men each; the average catch of these boats is from 25 to 30 quintals of cod, haddock, and ling, during the season.

The prices allowed the fishermen here were the same as at Grande Ance, that is, 10s. for 300 lbs. of green cod, and 5s. for the same quantity of haddock and ling. The fish are much smaller here than farther down the Bay, and are not so firm. Mr. Woolner said he found that 300 lbs. of green fish here would not make a quintal of dry fish, as could be done at Grande Ance, owing to the cod and other fish being less firm.

Mr. Woolner has a small but very complete establishment for putting up lobsters, in tin cases hermetically sealed. He had during the season thus put up 2000 lbs. in tins, a much less quantity than usual, owing to the cholera having cut off the market.

He purchases from the settlers the white part of the lobsters, boiled and free from shell, at two pence half penny per pound, which is salted in plain pickle, and packed in barrels for sale at Quebec. Of salted lobsters, Mr. Woolner put up eleven thousand pounds during the season.

Several American vessels had been seen mackerel fishing off Point Medisco during the season, but with what success had not been ascertained.

For several years no capelin have been seen on this side of the Bay of Chaleur above Grande Ance. Formerly, they were extensively used for manure, but they cannot now be had even for that base purpose, the run of the capelin having been completely broken up.

Herrings, which were formerly abundant, have fallen off greatly in numbers on this coast. Mr. Woolner stated that, just outside Bathurst Harbour, there was a beach where the herrings were accustomed to deposit their spawn in immense quantities, and the place was thence called "Herring Spawn Beach." He has seen the spawn thrown up on this beach by the surf in long thick rolls, or masses, which were carted away by the neighbouring farmers, and used as top-dressing for their fields! As a matter of course, this shameful proceeding destroyed the herring fishing at that place completely, and injured it all along the coast.

Green Point.

The wind being ahead and blowing fresh, the writer rested at this point a few hours, and during his stay went out to the fishing ground, about three miles distant, in a fishing boat, with three Frenchmen, a father and two sons; the boat was a good one, built of cedar, about 23 feet long, with two sprit-sails. The fishing was in ten fathoms water, and there was considerable sea on. The fishing lines were greatly worn, and the hooks were rusty, very blunt, and ill shaped. There was not a spare hook in the boat; and when a hook was lost, the line to which it had been attached was rendered useless, there being none to replace it. The bait used was clam somewhat stale. Yet under all these disadvantages, sixty fine cod and haddock were taken in two hours, by which time the wind and sea had arisen so much, that further fishing had to be given up. This case is mentioned, as an instance which came accidentally under the writer's own observation, of the imperfect and careless manner in which the fishing boats are equipped. There is reason to believe that many of the boats of the Bay of Chaleur go out equally unprovided, and that insufficient and unfit hooks, lines, and bait, tend greatly to depreciate and render unprofitable the labours of the fishermen, who pay little attention to what they generally consider trifles.

While fishing off Green Point a number of black porpoises were rolling about, and sometimes came very near to the boat. One large ling was caught—these fish are not commonly taken in the day time, the fishing for them being generally during the night. Where boats go off from the land and anchor, the boy (and sometimes a very small one,) is left to keep watch while the fishermen sleep; and he employs himself during the night in hauling up huge ling, of which he has a certain share as his proportion of the catch.

Heron Island.

There is excellent herring fishing around this Island, but the best stations are between the Island and the main land, the distance across being about two miles. A part of this Island only is granted, but the lots already granted are said to cover all the best beaches,

and leave no fishing stations at the public disposal, which is much to be regretted.

Mr. Harvey, who keeps an inn a short distance above Nash's Creek, stated that fall herring were taken about Heron Island, abundantly; that no shad, basse, or gaspereaux, were taken in this part of the Bay; that few capelin were seen; but lobsters and sea trout were abundant. Mr. Harvey was very anxious that the Americans should be allowed to land on this coast, and prosecute the fisheries, as they would teach the young men the latest and most approved modes of fishing, from ignorance of which they could not at present follow fishing profitably—and he desired that his wishes should be made known.

Dalhousie.

It was stated by Dugald Stewart, Esquire, the Deputy Treasurer at this place, that the emigrants from the Isle of Arran, who are settled along the coast of the Bay of Chaleur, in the Parishes of Durham and Colborne, have tried the *long line*, or *bullow* fishing, with great success. This mode of fishing is exceedingly well adapted for those settlers, as they can thus procure a supply of fish, and a surplus for sale, with but little interruption to the labour on their farms.

When these emigrants first settled on this coast they were very destitute, but they now own excellent farms which produce large crops, especially of wheat and oats. They have not only attained to independence and comfort, but many of them are becoming quite wealthy.

Mr. Stewart mentioned the case of a school master on this coast, named M'Allister, (a lame man, who taught school during the day, and employed his evening hours in knitting nets. He fished for herrings in the spring and autumn, at which periods there are school vacations for seed time and harvest. By pursuing this industrious course, in four seasons he earned sufficient to purchase a farm at the price of three hundred pounds, upon which he is now settled, and is quite independent.

There was a good supply of capelin in Dalhousie Harbour the past season, as there is generally every season. It was stated by the Honorable Mr. Montgomery and Mr. Stewart, that they are still used as manure, but not to the same extent as formerly. Mackerel frequently enter the Restigouche River, and ascend some distance; occasionally they are caught at Esquiminac Bay, about five miles above Dalhousie. Mr. Stewart stated, that no American fishing vessel had ever come so far up the Bay as Dalhousie; he is of opinion, that allowing American fishermen to establish fishing stations on the coast would be advantageous, especially in teaching the residents how to fish.

There is no fishing station, or any cod fishing prosecuted at Dalhousie.

DISTRICT OF GASPE.

Tracadegash.

Between Maguachia Point, at the entrance of the Restigouche, on its northern side, and Tracadegash Point, on the Gaspé shore, a distance of about fifteen miles, is Carleton Bay, which is well sheltered, with eight fathoms water, muddy bottom, and good holding ground. Ordinary tides in this Bay rise and fall eight feet, spring tides ten feet. At full and change of the moon, it is high water at three o'clock.

Mr. Joseph Marr, the Postmaster at Tracadegash, stated that the cod fishery was formerly prosecuted extensively in Carleton Bay, from the beach, but it has fallen off very greatly. The buildings formerly occupied as "fishing rooms" yet standing, are now deserted, while of others the foundations only are seen. Large quantities of capelin were accustomed to strike in here, but they were used extensively for manure, and but few are now taken. Immense quantities of herrings were also used on this coast for manure, but this has been prevented during the last four years, by an order of the Municipal Council of this division of the County of Bonaventure.

There are not so many cod now in the upper part of the Bay of Chaleur, (above Bonaventure,) as formerly, but more haddock.

Mackerel of the finest quality were taken off Tracadegash Point during the past season, but only in small quantities, from want of the requisite skill and outfit. Mr. Marr was of opinion that 20,000 barrels of mackerel might have been taken during the season, in Carleton Bay, by those who understood the fishery. The herring fishing commences here on the 20th August and ends the 20th September; the fish are taken almost at the doors of the inhabitants. This herring fishery could be prosecuted much more extensively than at present, if under proper regulations.

Large numbers of white porpoise were seen in the Bay of Chaleur the past season, which was an unusual occurrence, none having been seen there for thirty years previously. Their presence was supposed to have had an injurious effect upon the salmon fisheries of the Bay generally, as the white porpoise destroys great numbers of salmon, chases them in all directions, and breaks up their "schulls." These fish are quite common in the River Saint Lawrence, where they are taken sometimes of the length of 18 feet, in weirs set up for the purpose. They yield much oil of fine quality; their skins are dressed for traces, and the Canadian mail bags are made of them. Mr. Marr exhibited some of these bags, which were very white, thick, and soft; they stand much chafing, and effectually resist the wet.

Mr. Marr stated, that the American fishing vessels which frequent this Bay are in the habit of trading at Port Daniel; that they injure the cod fishing by throwing over the bones and offal of the fish they take; and that it would be better to allow them to land, for the purpose of cleaning and curing their fish, as they would then do less injury to the fisheries. The Jersey houses on the coast, he said, discouraged the herring fishery, and all other fisheries, except that for cod.

Mr. Marr had driven across the Bay of Chaleur, on the ice, from this place to Heron Island, a distance of 9 miles, and crossing that Island, had again driven, on the ice, across the strait, 2 miles wide, which separates the Island from the main, and landed at New Mills, on the New Brunswick shore. Mr. Marr exhibited a specimen of auriferous sand, from the bed of a brook on the New Brunswick side of the Bay, in which the grains of gold were very minute, but apparently very pure.

Mr. Edward Mann, who resides at Tracadegash, was prosecuting the herring fishing while the writer was there, in September. Mr. Mann is a person of much intelligence and information, and he cured his herrings in a proper manner. Immediately on being caught the head of each fish was cut off, which allowed all the blood to escape; they were then gutted, cleaned, and salted at once. These fish were very firm, admirably white and delicate, and possessed a fine flavour. All the fish which Mr. Mann would thus put up during the season, were engaged at £1 7 6 per barrel, thus affording the most convincing proof that attention to curing alone, was quite sufficient to ensure a market, and a high price, for these herrings. They were when caught precisely the same as the Caraquet herrings, which, from carelessness and mismanagement, are without value.

Mr. Mann's herring net had a mesh of two and a quarter inches, and his mackerel nets a mesh of three inches; with thick twine the mesh requires to be a little larger. These nets were one hundred meshes deep; but the imported nets, which are one hundred and sixty meshes in depth, are considered the best for fall herrings.

While the writer was at Tracadegash a fishing schooner arrived from Labrador, having on board three hundred quintals of dry cod, and one hundred barrels of herring. This schooner was intended to return immediately to Labrador to bring back another cargo which had been left there, the fishing having been unusually successful on that coast during the past season, many vessels, as in this case, having made double fares.

Bonaventure Harbour.

On the beach at this place Messieurs George and Ferdinand Boissonault, natives of Canada, have a neat store and fishing establishment; and the Jersey houses have buildings for receiving and storing dry fish.

The Messieurs Boissonault stated that there were about one hundred and twenty boats, with two men each, engaged in the cod fishery, on the coast between Tracadegash and Bonaventure; and that the catch of these boats would average one hundred quintals of dry and pickled fish, each, during the season. Not many capelin are now seen at this place, owing to their having been formerly used largely as manure. Several thousand barrels of herring are yet used annually at this settlement for the like purpose, and in consequence the cod fishing has greatly fallen off at this place; fishermen who formerly caught three hundred quintals of fish during the season, now only get one hundred quintals.

Several American vessels were off this place during the season,

and obtained full fares of mackerel ; they injured the cod fishing materially by depriving the fishers of their bait.

Messieurs Boissonault strongly advocate the appointment of a Government Inspector, to inspect and brand all fish ; as well to give character to the article as to prevent the gross frauds sometimes practised. They mentioned the fact of barrels of fish being sold as containing mackerel, the ends of which only contained that fish, the centre part of each barrel being filled with herring.

The entrance to Bonaventure Harbour is between two long narrow bars of gravel, one extending from a high bank on the south side, and the other from the flat on the north, upon which stands the village of Bonaventure. There is sufficient depth of water in the gully to admit vessels of two hundred tons at high water. Inside the gully there is an extensive basin, and vessels lie directly against the gravel bank, with three fathoms at low water. The Bonaventure River is about sixty miles in length ; it is called by the Indians the "Wagamet" or "Clear Water," from the exceeding purity and brilliancy of its waters. There are but few salmon in this river, or fish of any description, which is supposed to arise from the very extraordinary clearness of its waters ; and this absence of fish in the Bonaventure distinguishes it from every other river in the Bay of Chaleur. It may be said to be, "the exception which proves the rule."

Large quantities of sea trout enter the basin of Bonaventure from the Bay of Chaleur with every flood tide, and go out again with the ebb ; these fish have been designated "tide trout." They are of large size, and are readily taken by fly fishers from the sides of the gully, just as the flood tide begins to make. The sportsman, standing on the bar, amid kelp and sea weed, may here have excellent sport for about an hour each tide, until driven off by the advancing waves. He may then follow the fish up to the basin, taking them at every cast, and perhaps conclude the fishing for that tide under the stern, or alongside, some large vessel loading in the basin. Again, on the ebb tide there is good fishing for a short time, but it is more difficult then to hit off the fish, as they all appear to move out to sea in a body. The writer tried this fishing successfully on the 18th September ; the fish were brilliantly white, and in fine condition, very firm and well flavoured. It was stated by an old fly fisher from England, who lives at Bonaventure Beach, that, in the early part of the season, he took many of these fine fish of the weight of three pounds and upwards. It is said that salmon had been occasionally taken at this place with rod and line, while fishing for tide trout.

Paspebiac.

This place is sixty miles from Dalhousie, and derives its name from an Indian word signifying "The Great Landing." This landing is a long, curved, gravel spit, which stretches out into the Bay of Chaleur nearly three miles, forming on one side a tolerable harbour, and nearly enclosing between it and the main land, a *barrachois* or lagoon, very convenient as a shelter for fishing boats and shallows.

On the beach at Paspebiac, is situate the depot of the wealthy and well known firm of Charles Robin and Co., of Jersey, which was first established here in 1768, by the late Charles Robin, the founder of the firm, and has since gradually increased to its present extent. This excellent establishment comprises a great number of well finished buildings, stores, warehouses, forges, sail lofts, and workshops for every variety of purpose connected with the business, all kept in the neatest possible order. Each building of the establishment is numbered or lettered, and appropriated to a specific purpose; on no account is it permitted to be used for any other. An extensive stock of valuable goods is kept here; and a neat battery of six-pounders is always in good order, and ready for instant use, to protect the establishment. There is a ship yard here, at which the firm have always built one vessel annually, for more than half a century, and from the care taken in selecting the timber, and in building, these vessels have become noted for their extraordinary durability.

Every spring, a whole fleet of ships and brigantines belonging to the firm, arrive at Paspebiac from Jersey, with double crews, and all the necessary stores for the season. These vessels are moored in front of the beach, their sails are unbent and stored, their topmasts and yards are struck and housed. The whole of the vessels are placed in charge of one master and crew, who take care of them during the summer, and issue the salt, with which they are ballasted, as it is required. The rest of the masters and crews are dispatched in boats and shallops to various parts of the Bay to fish, and collect fish from those who deal with the firm. When the fishing season is over, these vessels depart with cargoes for the West Indies and Brazil, but more frequently to the Mediterranean—to the Ports of Messina and Naples. Their disposing of their cargoes, they thence take fruit or other freight to England; and fitting out again at St. Heliers, in Jersey, where the heads of the firm reside, they return to Paspebiac in the spring, to resume the business of the season.

The admirable plan of systematic arrangement at this establishment, the great characteristics of which are, ceaseless industry, frugality, and caution—and especially the strict enforcement of the rule, that no person shall be retained about the business who cannot be profitably employed—have long secured it the most solid prosperity, and enabled the intelligent and enterprising founder of the firm, to bequeath to his family a great amount of wealth.

On the same beach, adjoining the establishment of Robin & Co., is that of LeBoutillier Brothers, of Jersey, which, though not so extensive as the other, is well and neatly arranged, and kept in excellent order. The three brothers LeBoutillier were trained by the house of Robin & Co., and conduct the fishing business in the same systematic manner as that house, trading to the same ports, and with equal success and profit, but on a less extensive scale. Their whole export of dried fish for the year 1849, was expected to fall little short of 20,000 quintals.

Mr. LaPerelle, the chief agent of the establishment of Robin and Co., stated that their house would export from 40,000 to 45,000

quintals of dried cod, in the season of 1849, to the Brazils, and Mediterranean ports. The fish for the Brazils are packed in large flat tubs, called "drums," into which they are pressed by a powerful screw. Each drum contains exactly 128lb of dry fish, that being the Portuguese quintal; and the drums are shaped to suit the convenience of the Brazilians, who transport them into the interior of South America, slung in pairs upon mules. For the Mediterranean markets, the fish are stowed in the holds of the vessels, in bulk, and seldom receive damage, such is the excellent manner in which they are cured and stowed. The best and whitest of the cod are required for the Neapolitan market, for even the lazzaroni of Naples are very particular as to the quality of their fish.

Mr. LaPerelle said, that capelin struck in abundantly at Paspebiac the past season, and were used largely as manure. Herring do not come in here, in sufficient numbers to be used for that purpose. At one time during the past summer, there were five American schooners at anchor, about a mile from Messrs. Robins' establishment. They fished at the distance of three miles from the point of the beach, for mackerel, and obtained full fares; some of the vessels had nine hundred barrels; while they were fishing they destroyed the shore fishery for cod, as the fishers could not catch a sufficiency of mackerel for bait.

Among the standing orders of the house of Robin & Co. for the regulation of their fishermen, is one, that they shall not split or clean their fish on the fishing grounds, but always bring them to the shore before performing these operations. The people in their own employ are obliged to comply with this order strictly, and they endeavour to induce all others to be guided by it. They conceive it very injurious to the fisheries to throw bones and offal among the fish, and the opinion of the firm on this point, from their long experience and knowledge of the subject, must be deemed quite conclusive.

General Summary and Observations.

The number of boats and men engaged in the sea fisheries, and the quantities of dried fish caught and cured in 1849, in the district north of the Miramichi, may be thus summed up:—

LOCALITY.	Number of Boats.	Number of Men.	Number of Boys.	Estimated catch in quintals.
Portage Island,	33	80	20	900
Tabusintag Gully,	19	57	..	500
Tracad,	10	30	..	200
Shippagan,	60	120	60	6,000
Point Miscou,	40	80	..	3,000
Caraquet,	200	400	150	10,000
Grande Ance,	30	60	..	2,250
Petit Rocher,	40	80	23	1,200
Totals,	432	907	250	24,050

All the men engaged in this fishery are also part farmers; they cultivate some portion of land wherever they reside on the coast.

Of the quantity of dried fish above stated, it is estimated that 15,000 quintals were cod, and the rest haddock and ling.

The ling is a fish known in the Bay of Fundy by the name of "hake." In the Gulf this fish is taken of very large size, especially by fishing during the night. In appearance it corresponds precisely with the drawing in Mr. Yarrel's admirable work on British Fishes, (vol. 2, page 289,) and its description is the same as there given of the forked hake; or *phycis furcatus* of Cuvier. Owing to the length, breadth, and thickness of the ling when split, they are, at the best "rooms," dried on large flakes, raised about eight feet from the ground, which have a greater circulation of air underneath. The cod of larger size are also dried on these flakes.

Of the quantity of fall herring taken on this coast, it is quite impossible to give any estimate which may be relied upon as accurate. The principal fishing ground is at Caraquet, and the whole quantity taken there in 1849, would probably amount to two thousand barrels, or perhaps exceed that quantity. The catch at other localities along the coast, would, perhaps, amount to one thousand barrels more.

The quantity of mackerel caught and cured, is so small as scarcely to be taken into account, in giving an estimate of these fisheries. It was said that mackerel had at times been imported from Arichat for the use of the inhabitants on this coast, near which thousands of barrels, of the same fish, are annually caught by fishing vessels from Maine and Massachusetts.

The cod, haddock, and ling, are cured by the Jersey houses in the most perfect manner; nothing can be finer than their best quality of dried cod, when ready for shipment. By long practice, and close attention to their business, the Jersey curers have become exceedingly expert and skilful; they are fully competent to give instruction to others, and are admirable teachers. The suggestions of Mr. Doran, of Shippagan, (in his letter annexed,) that some of the young men of this Province should enter the Jersey establishments, to learn practically this important part of the fishery business, as also the mode of conducting it generally, is well worthy of consideration.

Some of the gentlemen connected with the Jersey fishing establishments in the County of Gloucester, complained bitterly of the heavy Provincial Duties on many articles imported for the use of the fisheries. It was said that these duties were very burthensome to the fishermen, who obtained no greater price for their fish than heretofore; but were, in consequence of the increased duties, obliged to pay much higher prices for their supplies than formerly.

With a view to ascertain the amount of duties collected at the Port of Shippagan, which includes Miscou and Shippagan Islands, Tracad, Caraquet, Grand Ance, and all the fishing "rooms" in that quarter, reference has been made to the Province Treasurer, and the following appears as the return of all articles imported into this district, which paid specific duties in the year 1849:—

Brandy,	None.	Meats, (salted,)	20,400 lbs.
Wine,	"	Soap,	1,814 lbs.
Spirits,	112 gals.	Lard,	40 lbs.
Lemon Syrup,	None.	Butter,	2,366 lbs.
Malt Liquor,	"	Cheese,	None.
Cider,	"	Candles,	362 lbs.
Molasses,	2,605 gals.	Leather,	380 lbs.
Brown Sugar,	9½ cwt.	Skins,	2 doz.
Loaf Sugar,	None.	Cattle,	1
Crushed Sugar,	"	Horses,	None.
Tea,	422 lbs.	Clocks,	"
Coffee,	332 lbs.	Coals,	45 tons.
Tobacco,	4,803 lbs.	Apples,	60 bush.
Dried Fruits,	None.	Wheat Flour,	1,644 bar.
Fish,	"		

The specific duties on the foregoing articles, with the ad-valorem duties on all other dutiable articles imported, amounted in the whole to £518 2s. 6d., which was the whole amount of Provincial duties collected for the Port and District of Shippagan, during the year 1849.

When it is taken into consideration, that articles for the use of the lumbering and mill establishments, and for consumption by the agricultural portion of the population in that district, pay a considerable proportion of the duties there collected, the residue would not seem to be of such an amount as to fall heavily on the fishers, unless the articles for their use paid duty in some other part of the Province.

The Sub-Collector at Caraquet, gave it as his opinion, that there was very little smuggling on this coast. The writer's opinion is somewhat different.

THE DISTRICT SOUTH OF THE MIRAMICHI.

In entering upon a description of the fisheries of this part of the Gulf Coast of New Brunswick, it is necessary to premise, that no fishing "rooms" have yet been established south of the Miramichi; that the sea fisheries are carried on by the settlers upon the coast, who fish to such an extent, and in such a manner, as suits their means, or their convenience; that the quantities they take are frequently only sufficient for their own families; and that but few of them cure fish for sale.

The Coast from Bay Du Vin to Richibucto Head.

On the whole line of this coast, spring herrings are abundant, but they are only taken by the settlers for their own use; and there is reason to believe that many are used for manure. There is excellent cod fishing outside Fox Island, and off Point Escuminac, as has already been mentioned. From Point Escuminac to Point Sapin on the Gulf Shore, the land is a miserable sunken tract, almost uninhabited, and there is no good harbour even for boats. From Point Sapin across the Straits of Northumberland, to the west Cape of Prince Edward Island, there is good fishing both for cod and mackerel, and this ground is a favourite resort for American fishing vessels, many of whom obtain full fares here every season. From Fox Island in Miramichi Bay to Richibucto,

salmon are caught all along the coast, there being nets at almost every lot. There were about 200 barrels of salmon taken from Kouchibouguac beaches to Richibucto Head, during the season of 1849; these were all caught outside, by sea fishing, as it may be termed. There is no regulation for this fishery; the season is from the 1st June to 15th August, after which the salmon are supposed to enter the rivers, as no more are taken on the coast. These salmon sell at Richibucto for £2 10s. per barrel, payable in cash.

On this line of coast, the fall herring are abundant, but only a few are taken at the Kouchibouguac beaches by the salmon fishers; they caught about 200 barrels the past season. It was stated as a reason why so small a quantity was taken, that this fishery occurs at the season when the settlers are engaged in making their Marsh hay, and that they have not time to attend to it.

Thomas Powell, Esquire, of Richibucto, stated, that he has been fifty eight years settled at Richibucto, and that he was 13 years of age when he first came with his father from Grimross, on the Saint John, to reside there. At that time there was not a white settler on the whole coast, from Shediac to Bay du Vin.

Mr. Powell thinks there is no cod fishing, properly so called, in the Straits of Northumberland, south of Richibucto Head, but north of a line drawn from that head to the west Cape of Prince Edward Island, he thinks the fishing very good. The in-shore fishing for cod is from the first June to 15th August; after that the fish move off into deep water on the banks. Mr. Powell says, that vessels of 35 tons, with crews of five men each, might prosecute the fisheries from Richibucto profitably, fishing either on the Bradelle Bank, or at the Labrador; that if the vessels were larger than 35 tons, they should be double that size, but these would not be so profitable as the smaller class. Mr. Powell is clearly of opinion, that the employment of twenty of these small vessels in the sea fisheries, would confer more real benefit upon that part of the Province, than all the steam saw mills there.

As to mackerel, Mr. Powell said, they were, and always had been abundant on this coast, but there were no preparations for taking them; he never knew a mackerel net to be used, but mackerel were occasionally caught in the gaspereaux nets.

Mr. Richard Long, pilot at Richibucto, stated that there are three harbours between Richibucto Head and Point Sapin, for vessels drawing 8 or 9 feet water, and several good boat harbours also. He described a small bank, distant about ten miles, east by north, from Richibucto Head, and in range of Point Sapin, where cod were abundant, especially in the latter part of the season. There is seven fathoms water on this bank, and a vessel of 15 or 20 tons might be filled in a week, using lobsters and clams as bait. Cod only are taken on this bank, and they average from 40 to 50 to the quintal. Cod fishing begins on the 20th May, and lasts as late as the weather will permit in the autumn. Until the end of June, large cod may be caught near the shore, but small cod may be taken close in during the whole season. Mr. Long said, that during the summer of 1849, mackerel were unusually abundant; the waters were alive with them.

Mr. Sylvester C. Wathen, a Merchant of Richibucto, informed the writer, that cod averaging seventy to the quintal were abundant throughout the season, at the distance of four miles only from the Town of Richibucto; that there was also good cod fishing at the red-buoy, half a mile beyond Richibucto Bar. Early in the season the French settlers frequently went out in *flats*, or small punts, and caught what cod they wanted, close to the beach. Haddock and ling were abundant in the latter part of the season—halibut were scarce—no pollack had ever been seen on this coast. Mackerel were said to exist in great plenty; some of the "schnulls" entered Richibucto Harbour in August last, and went up the river as far as the bridge, *but none were taken*.

Mr. Wathen said, that outside Richibucto Harbour, the waters were perfectly alive with mackerel every season, from 15th July to 15th September, yet there was no mackerel fishing. No vessels were fitted out on this coast for any of the sea fisheries.

David Wark, Esquire, of Richibucto, stated, that good fishing "rooms" or stations for the shore fishery, might be established at the entrance to the Kouchibouguac and Kouchibougnasis Rivers, the beaches being favourable, and in his opinion, the fisheries could be carried on there more profitably than at Newfoundland, because the fishermen could obtain other employment during the winter.

A fisherman from Prince Edward Island, named Wolff, was met at Richibucto; he had been out fishing for five weeks in a small schooner, having on board two men and a boy. They had fished in 8 to 30 fathoms water, and had caught thirty quintals of cod; the fish averaged one hundred to the quintal. Mr. Creelman of Richibucto, who had been out fishing with Wolff, said that on one occasion they had taken two hundred fish in two hours, about 20 miles from Richibucto. During the first week in September last, they boarded three American vessels off the west Cape of Prince Edward Island. One vessel had then 450 barrels of mackerel, chiefly No. 2, and was on her second trip; the other two vessels had 300 barrels each; one schooner was from Newburyport, having on board four men and four boys; in one day they took 65 barrels of mackerel. The skipper of this vessel said, he had fished for mackerel on the same ground in 1848, and his share of the profits that year, was five hundred dollars.

It is to be regretted that the depth of water at the entrance to the fine harbour of Richibucto, has recently shoaled to 13½ feet, owing to a new channel having broken out to the northward of the old one, and divided the water. This is a matter which requires some inquiry and attention, as the evil may yet be remedied.

From Richibucto Head to Shediac.

Between Richibucto and Buctouche Harbours, the coast is low with sandy beaches. Chockpish is nearly midway between these two harbours; it is small, but is a good harbour for boats, and the lesser description of fishing craft.

Buctouche, like all the other harbours on this coast, is a bar harbour. Owing to some cause not explained, the water has gradually deepened on the bar, during the last five years, to the

extent of 18 inches. Formerly there was only 12 feet water; but during the past season, vessels drawing 13½ feet have gone over the bar, not at the highest tides. The bar is only 60 yards in breadth; outside it, there is instantly three fathoms water, gradually deepening to sea-ward. Inside the bar, there are five, six, and nine fathoms, up to the loading place at the bridge.

Mr. Peter M'Phelim, of Buctouche, stated, that in April, or so soon as the ice breaks up, the spring herrings are abundant, but that the settlers on the coast only take so many as are necessary for the use of the settlement. Formerly, some of the settlers used them as manure, but a majority of the inhabitants opposed it, and succeeded in putting a stop to the practice. After the spring herring, the gaspereaux come in, and these are followed by cod, which remain in-shore for about six weeks. During this period, Mr. M'Phelim has seen the Frenchmen go out in their flats or canoes, only fifty or sixty fathoms from shore, and fill them with cod, fishing sometimes in two fathoms water only. Small cod, he says, may always be taken along the coast from Buctouche to Cocagne; but there is throughout every season good cod fishing from Buctouche across to Prince Edward Island.

Mr. M'Phelim says, he has seen every part of the Gulf of Saint Lawrence, and much of the coast of Newfoundland, and he is quite certain, that Buctouche harbour would be found as good a station for cod fishing as any where in Newfoundland. There are plenty of clams at the bar; and vessels frequently come there from the Bay of Chaleur, to obtain them for bait. There is an extraordinary abundance of lobsters along the whole of this coast.

Mackerel are very abundant off this harbour. Mr. M'Phelim said, that in the strait between Buctouche and Prince Edward Island, the waters at times were perfectly "boiling" with them—*yet none were taken!*

On the first day of October last, great quantities of mackerel entered the harbour of Buctouche, and went up Big Buctouche River; shoals of them were seen playing about in the basin, above the bridge—but they all went to sea again—not one was caught!

Cocagne is also a bar harbour; in ordinary tides there is nine feet water on the bar at low water, and 14 feet at high water—at spring tides there is two feet more. Within, there is a fine harbour, well sheltered, with good anchorage in five fathoms water.

There are no boats or vessels fitted out at Cocagne for taking cod, and that fishery on the Gulf Coast of New Brunswick, may be said to terminate here as its southern limit. It was ascertained that between Point Sapin and Cocagne, the inhabitants on the coast employ about forty five fishing boats, of 18 to 25 feet keel, with two sails, and generally three or four men in each boat. The whole catch of these boats will not probably exceed one thousand quintals during the season.

The following information as to the fisheries at Cocagne, has been kindly furnished by William Y. Theal, M.D., who resides there:—

"The fisheries, if they can be so termed, are conducted here in the worst possible manner. The herrings appear in and about the harbour immediately on the breaking up of the ice, and could be taken in any quantity with suitable

preparation. The inhabitants generally go out for them in parties of four to eight persons, with a canoe and small net, say from fifty to one hundred feet long, and four to six feet deep, supported generally by bark lines, with buoys to bear it up, and bags of sand, or stones slung, to sink the lower edge. Yet even with this rude outfit, they generally catch sufficient for their own consumption, and a large quantity to sell fresh.

"Many waggons from Sackville, Dorchester, Petitediac, and other places, are loaded here during the fishing season with herrings at two to six pence per hundred, payable in tobacco at 2s. per pound, tea at 4s. per pound, and small wares in proportion. In most cases, the herrings are of a poor quality, yet I have seen them fully equal to those caught on the Labrador coast. The gaspeaux enter the harbour and river a few weeks after, but the mesh of the nets being made for herrings only, few of these are taken; they are generally fat. Mackerel are often seen in large shoals, but I cannot learn that there is a mackerel net on this part of the coast. They are sometimes caught in herring nets, and are brought for sale fresh.

"Cod were caught a few years since in tolerably large quantities by a few families, who then had a boat; but they disagreed amongst themselves, and left the boat on the beach to perish. For the last three years no boat has been fitted out here. Occasionally a canoe will put out cod fishing, and do very well. The lines are very large, of domestic make, with huge pieces of iron to sink them; the hooks are enormously large, and also of domestic manufacture.

"Oysters are here in variety, and more abundant than in any other harbour on the coast. Those taken up the river are of inferior quality; but those from the harbour, excel in flavour even those taken from the mouth of James' River in the Chesapeake, which are so highly esteemed in the United States. Lobsters are so plentiful in the season, that they can be purchased at the door from two pence to eight pence per dozen."

The fisheries at Cocagne appear to be in a very primitive state, but little better than when the Micmacs were the sole residents on this coast.

Shediac Harbour & Baie Verte.

Of Shediac Harbour it is unnecessary to speak, the recent Railway Surveys having rendered it well known.

Messrs. James and William Milne, the very intelligent and able pilots who reside there, stated that there was no cod fishing south of Cocagne; that they had never found any cod south of a line from Buctouche to the west Cape of Prince Edward Island, and from thence to the eastward of Cape Tormentine. Within these limits the bottom is a soft blue mud, which is not favourable to cod.

The spring herrings are abundant on this coast, as elsewhere; they do not enter the harbours, and have not done so within the last twenty years. No fall herrings are taken, but the Messrs. Milne are quite sure they are outside Shediac Harbour. They have seen the herring gulls fishing for them; and last autumn they picked up one of the fall herrings, dropped by a gull which they frightened.

In July and August last, mackerel were seen in the harbour, as far up as Seadouc bridge, but nobody was prepared to take them, and some few only were caught in herring nets.

Aboushagan and Tedish are boat harbours, to the eastward of Shediac, between the entrance to that harbour and Cape Bald.

At Aboushagan there is from four to five feet water on the bar, with good sand beaches near the entrance. Tedish bar is dry at low water; but there is a fine sand beach, on which boats are easily drawn up.

The harbours of Big and Little Shemogue are between Cape Bald and Cape Tormentine. Big Shemogue is a good harbour for boats, and vessels of all sizes, up to 130 tons. There is ten feet water on the bar at ordinary tides, with a channel about fifty fathoms wide. The harbour inside is capable of containing one hundred vessels, with anchorage in $2\frac{1}{2}$ fathoms, well sheltered. This would be a very convenient harbour for building small vessels; there are good situations for ship-yards, where the channel runs close to the shore. There is capital timber for ship building in this vicinity, the woods never having yet been culled; and it is singular, that the advantages of this snug little harbour have been hitherto overlooked. Little Shemogue is about three miles to the eastward of its larger namesake, with nine feet of water on the bar, and ten to twelve inside.*

Off the harbours, from Shediac to Cape Tormentine, mackerel are always in abundance every season; the inhabitants manage to take as many as answer their immediate purposes, but they make no effort to prosecute this valuable fishery.

In Baie Verte, south of Cape Tormentine, the cod fishing again begins; and ling and haddock are also taken, but not in any quantity. Spring herrings, and gaspereaux, are very abundant; the latter have been taken in large quantities during the month of June, in the Gaspereaux River, at the head of this bay, not far from the Nova Scotia Boundary.

With reference to the fishery for spring herring, Dr. Guimarin, who has resided on this coast, states, that he has frequently been present during the fishing season, and noticed the great want of boats, of sufficient size, to take the fish from the nets, even when there was only a moderate breeze. In these cases the fishermen could not venture to launch their small skiffs or canoes, and the abundance of fish had often to remain, until they were quite spoiled, and unfit for use. In moderate weather, they would bring on shore such abundance of fish, that not having sufficient salt, or vats, or casks to put them in, they would pile them in stacks on the beach, and those not sold fresh, would be used to manure the land. Dr. Guimarin, says, the quantity of herrings thus lost and destroyed every season, between Richibucto and Cape Bald, would amount to a small fortune, if they were properly cured and packed in barrels. He adds, that if the fishermen on this line of coast were provided with suitable nets and boats—with barrels, which might be profitably made during the winter, when they are quite idle—and with sufficient supply of salt, the herring fishery might be conducted here upon a large scale, and with much profit.

SEA FISH, FISHING, AND FISHING TACKLE.

Besides the fishes mentioned, flounders are abundant every where along the northern shores of New Brunswick, from the smallest "dab" up to the large "*platessa plana*," sometimes two feet in length. A specimen of the plaice was seen at Miscou;

* For a description of the Harbours from Shediac to Cape Tormentine, the writer is indebted to Phillip Chapman, Esquire, of Shemogue, and Messrs. Milne, of Shediac.

and they are supposed to exist more or less abundantly in the Bay of Chaleur. Very little is known of the flat fish of the Gulf, the trawl-net not being in use. This net is greatly used in the fisheries of the British Channel, where it is called the ground-net, drag-net, trawl, or trammel, for it is known by all these names. It is a triangular net, with a mouth from twenty to thirty feet wide, and one foot high; this is so suspended from, and drawn after the fishing smack, as to scrape along the ground, and capture whatever swims within a few inches of the bottom, for the mesh is so small that few fish escape. All fish that are marketable are taken out of the net; the small fry are thrown again into the sea. By the convention between England and France, relative to the channel fisheries, it is stipulated that no trawl-net shall be used of which the meshes are less than an inch and three quarters from knot to knot. When Lord Aylmer visited the Bay of Chaleur in 1832, in the "Kingfisher," that vessel was provided with a trawl-net; among the fish taken by it in the Bay, the plaice is mentioned. It is said that neither turbot, brill, or sole, exist in the Gulf of Saint Lawrence; but there can be no certainty of this, until the trawl-net has been more extensively used.

One species of eel only was noticed on the Gulf coast; these are exceedingly abundant, and frequently of large size. An eel split, salted, and smoked, was exhibited at Pokemouche; without the head, it was thirty inches in length, and fifteen inches in breadth, as split, nearly the size of an ordinary smoked salmon, and quite as thick. It was taken in Pokemouche Gully with a basse spear.

The pollack, (*merlangus carbonarius* of Cuvier,) which is common in the Bay of Fundy, has not been seen on the Gulf shore of the Province; none of the fishermen there had ever caught one. The skate, which is abundant in the Bay of Fundy, (*raia batis* of Linnæus,) is not so common in the Gulf; a single specimen only, of small size, was seen at Miscou.

The only specimen of the shark family found in the Gulf is the common dog-fish, (*spinax acanthias* of Cuvier,) which at times is troublesome to the fishermen. This is a viviparous fish, one which produces its young alive. A female dog-fish opened at Point Miscou on the 25th of August, contained a number of young very nearly full formed; it is therefore probable, that the young fish are produced at the end of August, or early in September.

Three varieties of herring were observed on this coast—the spring herring, which appear immediately on the departure of the ice in the spring—the fall herring, which appear about the 20th August—and the small fat herring mentioned by Mr. Wilson of Miscou, which are also found along the shores of Gaspé. The former belief that a great army of herrings issued annually from the north, and made the circuit of the seas during the season, is now completely at an end. It is stated in Cuvier's great work on fishes, (*Histoire Naturelle des Poissons*, vol. 20, page 47,) that the markets of Paris are supplied with herrings from Calais and Dieppe, and that there is not the least difficulty in distinguishing the locality from which the herrings are brought, when once known. Mr. Yarrell, in his work on British fishes, (2d edition, vol. 2,

page 185,) says "there can be no doubt that the herring inhabits the deep water all around the coast, and only approaches the shores for the purpose of depositing its spawn within the immediate influence of the principal agents in virification—increased temperature and oxygen; and as soon as that essential operation is effected, the shoals that haunt our coast disappear; but individuals are to be found, and many are caught throughout the year."

Neither shad or gaspereaux, (now ascertained to belong to the same family,) are common in the Bay of Chaleur. It is supposed that the water is too clear and cold for them, and the bottom generally, too rocky; these fish are known to delight in a soft muddy bottom, and turbid water.

Among the shell fish not previously noticed, scallops may be mentioned; these were found of large size along the coast, between Tracadys and Shippagan. Many sponges beautifully branched like coral, were also found in the same locality.

Among the products of the fisheries, oil from cods livers must not be omitted. This important item in the cod fishery is valuable; the quantity produced from each quintal of cod, is supposed to pay for the labour of splitting, and the salt used in curing. Of late, it has been refined and rendered beautifully clear, and in this state is used for medicinal purposes; it is prescribed for consumptive patients, upon many of whom its effects are said to have been highly beneficial.

At each fishing station visited, specimens of the fishing tackle in use were procured, and it was observed, that the hooks varied very much in size, shape, and quality. Some of the hooks for cod, were of the rudest make, so short and ill-shaped, that, but for the voracity of the fish, they would be of little use. The best hooks were obtained at Messrs. Alexandre's station at Shippagan; those for ling have a very long shank, and are exceedingly well tempered and finished. The knives at this establishment are also excellent; they are manufactured by John Algor, Sheffield, and are superior to any others seen on the coast. The mackerel hooks generally, were much inferior to those made and used by the Americans; the "jigs" which were attempted to be used by the resident fishermen, were rude and clumsy affairs, as compared with the neat brilliant "jigs" made in Boston. The blue mackerel line did not appear to be in general use; white lines were most common, and those, it is thought by the Americans, frighten the fish. The snoods to which the mackerel hooks are attached, should be black, a fathom at least in length, and of less size than the line. The snood is attached to the end of the blue line, where the lead is also placed; and a small round piece of wood, about nine inches in length, is there required, to prevent the snood from becoming entangled with the lead.

The fishery with the long-line, or "bultow," is not practised any where on the coast visited, except between Bathurst and Dalhousie, by the settlers from Arran.

The rudeness of the fishing-tackle used by the fishermen of Cocagne, is described in Dr. Theal's letter from that place. The hooks, nets, and tackle in use throughout the district south of the

Miramichi, were found generally to be clumsy and inefficient; but for the abundance of fish, and the ease with which they are taken, there would be but few caught by such unfit and primitive contrivances.

On the coast of Norway, cod are caught in nets, and it is stated by Mr. Laing, in his journal of a residence in that country, that these nets are becoming more in use every season. For this fishery, every boat is provided with six or eight nets, each twenty fathoms in length, and thirty meshes deep. The mesh of the cod net is six inches from knot to knot, and is made of three-ply hemp thread. The back ropes and ground ropes, of each net, are fastened to the net, and the whole are set like Scotch herring nets, only with longer buoy-ropes. The cod nets are set at night in 60 to 80 fathoms water, and are taken up in the morning. The introduction of nets in the cod fishery, is said to have improved, very considerably, the condition of the inhabitants of the coast of Norway, as by means of nets, the quantity of fish caught has been nearly doubled.

It is not at all unlikely, that cod nets might be used with advantage on the Gulf coast of the Province, especially in the early part of each season, when the cod come close to the shores in pursuit of herring, capelin, and gaspereaux.

THE RIVER FISHERIES.

As the fisheries in the Miramichi River are of much importance, and involve nearly all the questions connected with the River Fisheries in this part of New Brunswick, they will be first described. The rivers to the northward will then be taken up in their order to the Restigouche; after which the rivers to the southward of the Miramichi, the fisheries of which are of much less importance, will be described.

The River Miramichi.

The principal fisheries in this river are those for gaspereaux, basse, and salmon, all which have diminished greatly of late years, owing to the improper manner in which they have been conducted.

There are, besides, great quantities of eels, which are chiefly taken through the ice in winter by spearing; trout, which are most abundant, and may be taken at all seasons; smelt, which ascend this river and its tributaries, in almost miraculous quantities, very early every year.

The gaspereaux enter the Miramichi during the first week in May, and ascend to their spawning places, which are about the head of the tide, both on the north west and south west branches of this river. They spawn very soon after they get up to their ground, and they go out to sea again in July.

In the North West Miramichi, these fish ascend no higher than the deep pool at Red Bank, at which place it has been customary to take them with a seine. This pool at times has been swept so thoroughly that not a fish has been left, and the gaspereaux fishing, as such, may be said to have ended on the North West.

A very small meshed seine was used for the gaspereaux, which destroyed great quantities of small fish, especially the young salmon, trout, and basse. The gaspereaux fishery on the Miramichi was almost a total failure the past season.

The gaspereaux taken in the river are generally thin and dry, while those caught outside are very fat, as already mentioned. John T. Williston, Esq., of Miramichi, who has much experience in the fisheries, stated his opinion that they are not the same fish; he says the outside fish, which are called summer gaspereaux, never enter the rivers. Besides their being fatter, they are smaller and more yellow in colour than the spring fish. It is quite possible that Mr. Williston is correct, and that the spring and summer gaspereaux differ, as do the shad which enter the River Saint John in the spring from those which are caught late in the season in the Bay of Fundy. It may be remarked that Cuvier in his great work on the Natural History of Fishes, (*Histoire Naturelle des Poissons*, vol. 20, p. 416,) classes the gaspereaux or alewife of North America as of the genus *alose* or shad, and designate it *alose tyran*, after Dr. DeKay, of New York. Considered as a smaller species of shad, the habits of the gaspereaux may be much more readily understood, and the relative value of the river and sea varieties better appreciated, by comparison with those of the spring and fall shad.

Formerly great quantities of basse, some of very large size, were taken in the Miramichi, but this fishery has also nearly ceased. These fish in the winter gather in large shoals, and lie in a dull and half torpid state under the ice; they are then taken in the following manner:—A bag net is put upon a bow, or hoop of wood, six feet in diameter, and this hoop is attached to a pole, twenty feet in length. A large hole is cut through the ice, at some place, which the basse are known to frequent, and the net is put down. The person who uses it, places the end of the pole across his chest, and walks about six times around the hole, sweeping the net about. It is then drawn up, and the fish removed; the operation is repeated until all the basse are taken at that spot. This is done at night—the darker the night the better. The fish are very stupid, and easily taken, as they will not stir. The mesh of these basse nets was formerly four inches, but the size has been diminished as the fish decreased in numbers, and now the very smallest are taken. Last winter, great quantities of small basse were thus caught in the Miramichi, by very fine nets; and it is supposed that they are now nearly exterminated.

The salmon fishery of the Miramichi has long been known for its extent and value. The first British settler was Mr. William Davidson, from Scotland, who established himself on the banks of the Miramichi, in 1764, and for many years after, he caught and cured from 1400 to 1800 tierces of salmon annually. The fishery is now so cut up and divided, that it is impossible to say what quantity of salmon are caught, so many being consumed fresh, or put up by the persons who take them, for family use; but at a rough estimate, the whole quantity does not probably exceed one thousand barrels.

The Act 39 Geo. 3, cap. 5, for regulating the fisheries in the County of Northumberland, prescribes the length of net to be used in the Miramichi, from the Bay to the head of the tide on each branch of the River, and provides that no salmon shall be taken in any manner, between the 30th day of August and the 1st day of April following. The Justices in Session, are by the Act empowered to appoint Overseers of the Fisheries to carry out its provisions.

There is a wide difference of opinion as to the best mode of regulating and protecting the salmon fishery of the Miramichi and its tributaries, between those who catch salmon in the tide-way, and those who take them in the fresh water above. The views and opinions of the several parties will be given as nearly as they could be ascertained, it being understood, that all agree as to the decrease of the fishery, and the urgent necessity for the adoption of means to preserve and protect it.

Donald M'Kay, Esquire, J. P., of the North West Miramichi, stated, that the white settlers fish the rivers in all parts unlawfully, by netting, seining, dragging, spearing, and every other way possible, up to the very heads of the streams; and that this unlawful fishing is continued until the close of the season, when the ice makes. The Overseers do not perform their duty, because they are not paid for it, and cannot afford to do it gratuitously, neither do they prosecute for breaches of the laws, as they are bound to do, because they have often to pay the costs out of their own pockets when they do. From Beaubair's* Point to the head of the tide on the North West, a distance of 14 miles, nets of forty fathoms in length are allowed. Mr. M'Kay said, these nets overlapped each other in many places, and in others completely closed the channel. He is opposed to spearing in the upper parts of the rivers; but he thinks it might be permitted during the netting season, up to the head of the tide; but above that, all persons should be strictly prohibited from spearing.

Mr. M'Kay stated as his opinion, that the outside fishing—that is, the fishing in the Bay and lower part of the Miramichi—is prosecuted too largely, and destroys the run of the fish. In 1848 a great storm damaged and destroyed the nets outside; the week following there was an excellent run of fish in the North West. Instead of one salmon they took ten in a tide; but so soon as the nets outside were repaired, the fishing ceased. Mr. M'Kay is decidedly of opinion, that the size of the mesh of all salmon nets should be regulated by law, as the mesh has been greatly diminished of late years, in order to take grilse, which is very destructive; that nothing would protect the fisheries so effectually as the appointment of proper persons as Overseers—say one in each Parish, who should be paid.

John T. Williston, Esquire, J. P., of Chatham, stated, that the great destruction of salmon takes place from the head of the tide upward. The fish are followed to the very heads of the streams, and there destroyed, among them, grilse of small size, which are

* In the Act this is designated Beauhebert's Point, which is probably the correct orthography.

taken in great numbers. On the 1st of October, Mr. Williston stated to the writer, that during the preceding fortnight, several canoe loads of "black" salmon salted, had been brought down the river to a dealer in Chatham; and that during the preceding week, a constable reported to him, that one hundred canoes were then employed in taking salmon in the upper waters of the Miramichi. Mr. Williston stated his decided opinion, that some respectable person should be appointed to oversee the fisheries of the Miramichi, whose duty it should be to enforce the law, and who should be paid.

With reference to the taking of black salmon, or salmon wholly out of season, the writer can state, that on the 27th of September last, he ascertained that salmon fishing was carried on, in defiance of the law, at Bartibog River, a tributary which enters the Miramichi, a few miles above Miramichi Bay. They were taken both by nets and spears; and the parties who used these different modes quarrelled nightly, and endeavoured to drive each other off the fishing ground. The fish were very thin and black, many of them so spent as scarcely to be fit for human food. Large salmon in this state were sold at 15d. each. In coming up the Miramichi River in his canoe, during the night of the 29th of September, the writer, just before midnight, passed over two long salmon nets which were regularly set, although the weather was then very cold, and the night frosty. These nets were set from a high bank or cliff, about a mile below the saw mills of Messieurs Gilmour, Rankin and Co., in places where they were not likely to be seen from the shore.

Mr. George Parker, of Chatham, stated that during the last three years large quantities of salmon, out of season, have been brought down the river to Chatham for sale; that the salmon fishing during this period has fallen off very greatly, and will fail altogether if not protected. The Indians and settlers, he said, take them out of season up to the very heads of the streams, and in every stream; and encouragement is given to this wholesale slaughter of the fish by small traders, who purchase them because they get them at a low price. They are packed with prime fish, and sent abroad, and the character of the fish is thus destroyed in distant markets.

The illegal salmon fishery of Portage Island, mentioned in the former part of this Report, appears to have existed for some time.

The Honorable Mr. Cunard stated that the catch of salmon at this Island, during the season of 1849, was less than usual. He also said that quantities of very small grilse had been taken in the upper part of the Miramichi during the last season, some of which he had seen. Mr. Sheriff Black stated that one person at the head of the tide on the South West, took twenty barrels of small grilse during the past summer.

Alexander Davidson, Esquire, J. C. P., (son of the first settler on the Miramichi,) is well and thoroughly acquainted with the salmon fishery. He stated his firm opinion, that the outside fishing is fair fishing; that the mischief is done up the rivers; that no salmon should be taken after the 20th August on any pretence; that the taking of salmon out of season should be punished crimi-

nally; and that the overseers of the fisheries should be paid officers. He mentioned, that one person on the Miramichi had sold grilse to the amount of £80 during the past season, and that this taking of grilse would soon destroy the salmon fishery. He thinks the size of the mesh should be regulated by law, and that the mesh for basse should not be less than five inches.

A letter was received from James Lechmere Price, Esquire, J. P., who resides in the Parish of Ludlow, on the South West Miramichi, which is so valuable, and so accurate in its details, that it is here given entire :—

"Ludlow, 8th October, 1849.

"SIR,—My attention having been directed to your memorandum of the 10th August last, respecting the fisheries in this part of the Province, I beg to furnish you with the subjoined observations, which relate to the salmon fishery on the River Miramichi.

"The salmon enter the Bay of Miramichi early in the month of June, and are generally found in all the considerable tributary streams before the last of that month. In the Bay and other tide waters, they move rapidly in shoals, but after reaching the fresh water they separate into small groups, some of which pass leisurely into each of the tributary streams, as they present themselves at short intervals, while other groups occupy, for indefinite periods, favourable situations in the principle rivers. During the latter part of July, in the month of August, and in the early part of the month of September, while the water is warmest near the surface, they are to be found, from the confluence of the tide to the uppermost waters of the river and its tributaries, occupying in quiet groups the deepest waters that the several streams afford, and at all times showing a preference to those places where the purest and coolest water is discharged by springs into the principal streams. This propensity appears to arise from the necessity which exists in cold blooded animals, for a low temperature, not only in the evolution of the ovum after it is cast, but also in the previous stages of gestation. For in the latter part of autumn, when the water gradually becomes coldest near the surface, they begin to separate in pairs, male and female, and in the month of November, when the spawning takes place, they occupy separately, in pairs, small cavities evidently formed by themselves, in the beds of the streams, near the shores and sand banks, where the water is shallow, and at the heads of the rapids with which the rivers abound. At all seasons, heavy rain, by suddenly increasing the quantity and changing the condition and circumstances of the water in the rivers—thereby affecting the usual haunts of the salmon—has invariably the effect of setting them in motion; and in truth, it appears not improbable that the flood, occasioned by the melting of the snow, and by the large quantity of rain which usually falls in the spring, by forcing into the bay a greater proportion of fresh water, at a time when it is congenial to the fish, attracts them at the first to enter the river; and that a recurrence of nearly similar floods, at intervals during the summer and in the fall, produces the same effect upon those that arrive on the coast at a later period. A progressive deterioration takes place in the salmon from the period of its first entrance into the fresh water, until it disappears in winter. The quality of the fish is not, however, much impaired until the middle of August, and it affords wholesome and palatable food until the middle of September,—in which latter month, and in the previous month of August, it is generally preferred for undergoing the preservative process of smoking. At this season also, salmon are commonly found in greater abundance than at any other time. When taken late in the month of October, the spawn of the female, as well as the sperm of the male, will escape from them by rough handling; but the female is never found free from spawn at an earlier period. The ova are then of the size of the largest pea, the skin of the fish is thick and tough, and the flesh gelatinous and white; rendering it altogether so unsightly and so unpalatable, that no necessity, which has heretofore visited the people of this country, has compelled them to use it, to any considerable extent, as an article of food.

"In the Bay, and below the confluence of the tide, salmon are taken partly by set-nets, which are not permitted by the laws to extend beyond a certain

portion of the river and estuary; and partly by seines, and drift or sweep-nets as they are technically termed, which, while suffered for the purposes of the herring and gaspereaux fisheries, cannot be restrained from taking salmon and grise at the same time. As regards the set-nets, it is not unusual for the owner to procure distinct portions of net, which (after being formed at one end into a particular trap or pound, and being fastened to the part which, suspended on buoys or pickets, occupies the legal breadth of the river,) are separately extended down the stream; furnishing for ordinary occasions, convenient additional snares; while another portion, retained in its position by buoys alone, is at all favourable hours extended, slightly under water, quite to the opposite shore. In fact, the indifference with which these mal-practices have been regarded by the legally constituted authorities, has emboldened many, during the recent scarcity of food, to extend their nets openly from shore to shore.

"A competent law to compel the overseers of fisheries to be sworn into office, might obviate in some little degree these unfair modes of fishing; but it would seem that no great reliance can be placed in the efficacy of a class of men, who, while pursuing their ordinary and urgent avocations, are not likely to have much spare time to devote to the purpose of watching, day and night, the nets of their crafty and vigilant neighbours.

"The truth is, that the fish, becoming more wily from experience, approach with greater caution, as they advance up the river, every obstruction that appears to threaten their safety—and as in this they are aided by the increasing clearness and decreasing depths of the streams, the fisherman is induced to adopt, step by step, different methods to ensnare them; and finally, in the upper portion of the rivers, to resort for the most part to the use of the torch and spear, which, from the dexterity with which practice enables them to be employed, are effective every where in the clear, rapid water. This latter mode is not however, exempt from the consequences of floods. When they prevail, the turbid state of the water renders it impracticable.

"For twenty miles above the confluence of the tide, the south west branch, which is the principal branch of the river, partakes largely of the character of the estuary, in point of depth and opacity of the water, and the fishery, though to a much more limited extent, is conducted chiefly by similar methods, without being susceptible however, of quite as many glaring abuses; the necessity for frequent intercourse by water communication, added to the limited width of the stream, and the increased rapidity of the current, rendering some of the ordinary expedients abortive. The spear is however used with great success in the rapids on this part of the river.

"From this district to the upper waters of the river, comprising a distance of eighty miles of fishing ground, the shallowness and clearness of the water, the great velocity of the current, the inequalities in the bed of the stream, and the change that takes place in the habits of the fish, all render the use of set-nets inexpedient, and owing to the same causes, nets for sweeping and drifting are of little service, not repaying the expense incurred in preparing them. To illustrate these positions, it is truly affirmed that a set-net, belonging to this part of the river, has been left in the stream, suspended on pickets in the usual way, during a fortnight of the best periods of fishing, without yielding even one fish. This incident may perhaps be in part accounted for, by the fact, that during some seasons, in consequence of the scanty supply of water in the river, which gives greater facilities to illegal modes of fishing, very few salmon, except grise, make their way to this portion of the stream, until after the autumnal rains. It is to be remarked that the grise are for the most part milers. The spawners of that age, as it would seem, do not often enter the fresh water, while on the contrary, the young milers appear to accompany the spawners of advanced age in great numbers.

"In the year 1845, an Act of the Legislature was passed, prohibiting altogether the spearing of salmon, except by the Indian tribes. This act was so manifestly unjust towards the inhabitants of the upper part of the Miramichi River, where fishing with nets is almost impracticable, that no attempt has been made to enforce its provisions in that respect. Spearing might, however, with great propriety, be strictly prohibited in the month of October; for in the early part of that month salmon are sometimes speared in considerable numbers, particularly in that part of the Miramichi River which flows through the County of York,—notwithstanding their quality is deeply impaired, and although the near approach of the season of spawning and of impregnation forbids their destruction.

"Above Boiestown, fly-fishing is practised to a considerable extent, by occasional visitors; but this method, from its uncertainty, and from the large portion of time always consumed by it, cannot be profitably pursued by the inhabitants generally.

"There are two points on the south west branch of the river, notorious for the facilities which they afford for illegal fishing, and for the recklessness with which the immediate inhabitants avail themselves of the advantages of their position: one at Astle's, near the confluence of the tide, and the other at Arbo's, a short distance above the mouth of Cain's River. At both these places it is the common practice to extend nets across the entire river, at every favourable opportunity; and in the latter place, to adopt besides, every other known method of unfair fishing, some of which are indeed peculiar to the parties. To these unfair practices, so prevalent in the tide waters, and in their vicinity, aided by the superior natural advantages which the river there affords, is doubtless to be attributed the fact that the annual catch of salmon is less by more than nine-tenths, in the upper eighty miles of fishing ground, than it is in the corresponding distance below.

"The erection of dams across the smaller streams, by diminishing the accustomed scope of the fish, would doubtless have the effect of gradually lessening their numbers; but the fisheries on the Miramichi cannot be supposed to have sustained much injury by that means, as the dams heretofore erected, are inconsiderable, when compared with the vast number of streams which remain unobstructed in that way. It is evident, however, that a provision by law to compel the construction of fish-ways wherever dams are erected hereafter, is not undesirable. At the same time it must be confessed, that mills for the manufacture of lumber, have in one respect, promoted an equal distribution of the benefits resulting from the fisheries, as the transportation of lumber by water to the harbour, has contributed not a little towards preventing the use of nets extending across the channel.

"When the great increase of occasional fishers upon all the rivers, is taken into account, it does not appear that the annual catch of fish has diminished much during the last twenty years; certainly it is not decreased to the extent which many persons suppose. In fact, the quantity taken on the River Miramichi and its tributaries, was greater in 1848, than the quantity taken in any one of the preceding twenty years, while the present year has afforded an unusual supply to the fishermen in the bay, and in all the tide waters.

"It has been suggested that a law, confining the salmon fishery to three days of the week, during the fishing season, would, if rigidly enforced, conduce to a more equal distribution of the benefits to be derived from it, besides contributing greatly towards preventing the too rapid destruction of the species. Such a measure would doubtless be acceptable to many of the inhabitants of the rivers, but to the professional fisherman it would be inconvenient, if not highly injurious.

I am, Sir, your obedient servant,

JAMES L. PRICE.

H. M. Perley, Esq., Gov. Emigration Office, St. John, N. B."

The following letter from Alexander Davidson, Esquire, of Oak Point, (ten miles below Chatham,) also contains very valuable information and suggestions; it is likewise given in full:—

"Oak Point, Miramichi, 10th October, 1849.

"Sir,—In accordance with the request contained in your circular, I give you below, such information as I am possessed of, relative to the bay and river salmon fishery at this place.

"The bay fishery has been gradually falling off for a number of years, and latterly, has become ruinous to many of those engaged in it. The river fishing has fallen off in nearly the same degree, but the expense of river fishing being less than in the bay, the consequences of the failure have not been so severely felt. Still, it is felt, in common with the other, both individually, and as a source of trade.

"The great cause of the failure of the fishery throughout this river, I attribute to the taking of fish at an improper period of the year; and from the best information that I can collect, this is practised in all the rivers that the salmon

frequent, but more particularly on the south west branch of this river, and to prevent which, appears to be the greatest difficulty to overcome in restoring the fishery.

"The law at present prescribes the time at which salmon should be taken, and imposes a fine for any fish caught after that time,—and a fine on persons purchasing such fish;—still, they are openly sold and purchased, salted and exported, as spring-caught salmon, though very inferior to such. Those caught late in the season are hardly fit for human food.

"The next thing that I would draw your attention to, is the fishery along the outside of Portage and Fox Islands, at the entrance of this harbour. Your personal observation would shew you the position of these Islands; and at the fishing season (although contrary to law) the whole of the outside of them is studded with nets to the entrance of the harbour, leaving little more than the ship channel clear. If this abuse is allowed to continue, (even should other matters connected with the up-river abuses be corrected, and the fish partially return to the river), the bay fishing will not be worth following, as immediately on the nets being set at these Islands, the bay and river fishery ceased to remunerate those engaged in it, and fell off, in proportion to the increase of the fishery outside; for the obvious reason, that the fish were prevented from entering the harbour. These unlawful fisheries outside, have amply remunerated the few monopolists engaged in them, at the expense of every person who invested property for the lawful prosecution of the fishery inside.

"To answer the great question—how to remedy these things—is more difficult than to point them out. There are local overseers of fisheries appointed by the Sessions in each Parish; these are useful to confine the nets to the length prescribed by law, and to regulate other matters among the legal fishermen; but among the illegal, they are inactive; and up the branches of the river, are said to participate in the catch of fish out of season. The outside fishermen threaten vengeance if they are meddled with, and continue their illegal course, even on Sundays.

"The laws regulating the fisheries in this County appear to have been framed with much care, and are well adapted to the bay and river; therefore, it is only in consequence of the breach of those laws that the salmon fishery has been destroyed.

"I have given the subject a good deal of consideration, and the only way I think of, to remedy the evil, would be, to have two active persons appointed by the Government, in addition to the overseers appointed by the Sessions, one for the upper part of the river, and the other for the lower part, including the bay, and outside, as far as the law regulating the fisheries extends, whose duty it should be to inform themselves of all infringements of the law, and to prosecute the offenders. They might be paid either by the Province, or by a tax on the salmon exported.

"I would suppose that £50 each would be ample remuneration. I may add, that an active man might attend both districts, as the trespassers in the upper district do not commence their operations till the bay and outside fishing are over.

I am, Sir, respectfully,

Your very obedient servant,

ALEXANDER DAVIDSON.

M. H. Perley, Esquire, &c. &c. Saint John."

From the foregoing information as to the fisheries of the Miramichi, the following conclusions may be drawn:—

1st. That although an Act of Assembly was passed in 1835 to regulate the shad fishery of Northumberland, yet there is now no such fishery in the Miramichi, nothing being heard of shad.

2d. That the gaspereaux fishery, formerly very productive, has almost ceased, and is now without value or importance.

3d. That the basse fishery is nearly, if not quite, destroyed.

4th. That the salmon fishery has greatly decreased, and is in a fair way of being destroyed also.

To preserve what yet remains of these fisheries, and to restore them if possible, the appointment of paid overseers or inspectors would seem to be absolutely necessary. The regulation by law, of the size of the mesh of the various nets in use, appears also indispensable, to prevent the destruction of small fish and fry.

The questions with reference to the regulation of the salmon fishery are of much importance, and similar questions have been the subject of much discussion in Ireland. They appear, however, to have been settled by the fourth Report of the Commissioners of the Fisheries in Ireland, which was presented to Parliament in 1845, an extract from which, in relation to the salmon fisheries, is here given :—

“ With the sanction of Government we extended our inquiry to the whole of Ireland, free of all expense to the parties interested, instead of limiting it to those cases in which we received applications, (as the terms of the original Act might be construed to require,) because we early found, that such a course was essential for arriving at the whole truth, in order that we might be enabled to frame such regulations, as should appear most conducive to the public interest.

“ We are persuaded that the adjustment of the question, in order to be useful and perfect, must be founded on uniform principles, be applicable to the whole country, and be supported by Legislative enactment, rather than by bye laws.

“ From a consideration of the weight of evidence given before Parliamentary Committees for many years : from the Report of Commissioners of Inquiry into the Irish Salmon Fisheries in 1836 : and finally from the evidence collected and the Report furnished by Messrs. Mulvany and Barry, we are led to indulge a hope, that the time is not far distant, when one uniform close season for salmon, will be applicable by law, both to Great Britain and Ireland, there being no reason to doubt, but that the habits of the fish are substantially the same in both countries.

“ To the proposition of a uniform close season for sea and tide-ways, we apprehend no well founded objection can be advanced.

“ But a slight departure from uniformity in the upper or fresh water portions of rivers, however apparently calculated to give rise to jealousies, will, we conceive, be found, upon investigation, judicious, and, in fact, to be the most expedient compromise (for such only it must be considered) that can be adopted.

“ We are strongly impressed with the importance, not only to the public, but also to the parties locally interested, or possessed of extensive rights, of having the rivers fully stocked with a supply of early breeding fish, and of the consequent necessity of ceasing from all kinds of fishing for salmon, at an early period in the autumn.

“ Further, we believe, that to open any part of the month of January would, on the whole, be attended with more evil than good : and that the few persons who have heretofore derived advantage therefrom, either under the provisions of the old laws, or by acting contrary to law, will participate largely in the benefits certain to arise from an improved system, effectually carried out, and will be amply rewarded for any temporary loss they may sustain in being prevented from fishing in that month. We therefore propose—

“ 1st. That in the upper or fresh-water portions of rivers throughout Ireland, there shall be a uniform close season, as regards *every mode* of fishing for salmon, from the 15th September to the last day of February inclusive.

“ 2nd. That in the sea and tide-ways there shall be a close season from the 1st September to the 31st of January inclusive.

“ 3rd. That all net-fishing for salmon and trout shall cease in the upper portions of rivers on the 31st August, and that angling only for fish shall be permitted until the 15th September.

“ Some doubt has been expressed whether angling might not be permitted to a later period than the 15th September, but, after due consideration, we are opposed to any such extension, which would be exceeding, by so much, of the open period fixed for the greater part of Scotland, by the Act 9 Geo. 3rd.

"If in conjunction with a due observance of the limitation above proposed, suitable migration passes be left, even in what are considered the latest rivers in Ireland, and if due protection be afforded during the close season, we confidently predict, that in the course of a very few years, the parties really most interested will find, in the improvement of the fisheries, that their advantage has been consulted, in the refusal to accede to the full extent of their demands.

"We wish further to report, and to impress upon the attention of all parties, that the rivers are the natural nurseries, not merely for the fisheries within their banks and at their mouths, but also for the public fisheries on the coast; and that the times to be allowed for the fisheries therein, must be regulated by a consideration of what is best, on the whole, for the public interests."

These opinions, formed after untiring research, and with much care, are worthy of great consideration in New Brunswick.

It is stated, that in Scotland, no grilse—that is, a salmon of less than 5lb weight—is allowed to be exposed for sale, and that the taking of such is prohibited under heavy penalties. If all the calves in New Brunswick were killed at an early age, it is not likely that, afterwards, there would be many cattle; and if all the grilse are taken, it is quite certain that salmon will soon cease to exist. The capture of grilse under a certain weight, either by net or spear, should be strictly prohibited.

As to spearing generally, the writer is of opinion that it tends, more than almost any other mode of fishing, to the destruction of salmon, as it is most frequently practised while the fish are actually upon, or very near the spawning beds, in the upper or shallow parts of the streams, where they ought, on no account, to be disturbed. The Act of 1845 mentioned by Mr. Price, (8 Vic. cap. 71,) should be extended to prevent spearing, by all persons whomsoever, at any time, or in any place; and the provisions of the same Act, with reference to the taking of grilse, require to be rendered more precise, in order to prevent the utter destruction of the salmon fishery of the Miramichi.

Of the necessity of legal enactments for the preservation of the river fisheries, there can be little doubt. Those fish which make the sea their only element, can scarcely be reduced in numbers, or extinguished, by any human effort. But it is widely different with the fish which live in fresh water, or which visit the rivers occasionally; these are confined within narrow limits, and placed within reach of the avaricious and destructive contrivances of men, who capture them without even the toils, or the dangers, of the open sea. Hence the necessity of prohibitory statutes, and above all, an enforcement of their provisions in an efficient manner.

The Tabusintac River.

This is a large river, up which the tide flows about fifteen miles. Formerly many basse and gaspereaux were taken in it, but owing to the same destructive modes of fishing as in the Miramichi, those fisheries are nearly at an end, very few of either fish being now caught.

Salmon also frequented this river formerly, in considerable numbers, and the upper part of it seems particularly well adapted for this fish; but it was stated by Roderick M'Leod, Esquire, who resides near the mouth of the river, that the salmon fishery of the Tabusintac is not now of much account.

On the banks of this fine river, there is much land of the best quality, especially from the sea to the bridge on the great road to Bathurst; yet the settlements only extend about six miles up, along the tide-way. Owing to the upper portion of the river being in an unsettled and wilderness state, peculiar facilities have existed for the wholesale destruction of the salmon, and these have not been neglected. The writer ascended the Tabusintac from the sea, in 1841, during the month of September, at which season the salmon fishery ought by law to have ceased. Yet at the head of the tide, just where the fresh and brackish water mingled, two nets were found stretched from bank to bank, the one a little above the other. The smaller fish which escaped the first net, were entangled in the second; not a single salmon could pass up. It is not, therefore, surprising, that at present, the salmon fishery of the Tabusintac should be of little account.

The Tracadly and Pokemouche Rivers.

There are still some gaspereaux and basse in these rivers, although they diminish annually. It was stated by Mr. James Young, of Tracadly, that he caught 222 barrels of gaspereaux in these rivers last spring. The whole quantity taken on the Tracadly River by the French settlers, could not be ascertained; at Pokemouche, the catch of the season was estimated at 600 barrels, half of which were salted for sale. The gaspereaux enter these rivers about the first of June.

Mr. Young stated, that the salmon fishery on the Tracadly River was now of no value; he has tried it without success. On the Pokemouche River, a few salmon are yet caught, but not of such large size as formerly. In 1841, the writer was with a spearing party on the Pokemouche, when several fine salmon were taken; the largest weighed 22 pounds—it was not taken with an Indian spear, but with a Scotch leister. With some attention to the enforcement of the law, the salmon fishery of the Pokemouche might yet be rendered valuable. Spearing should be wholly prohibited; in this case, the writer speaks of the evil effects from his own knowledge.

In the Tabusintac River, the two Tracadly Rivers, and the Pokemouche River, large trout are most abundant. They ascend these rivers, from the Gulf, in the month of June, and they are to be found about the head of the tide in each, throughout the season, from 1 pound to 5 pounds in weight. They are sometimes taken in nets, in large quantities, and salted down in barrels. During the past season, "tide-trout" were taken in the Pokemouche Gully by the settlers, with the rod and line; the fishing was only at young flood, on each tide, as at Bonaventure, in Gaspé.

The Nepisiguit River.

This river is eighty miles in length, and takes its rise from a small lake, only three miles distant from the Nictau Lake, at the head of the Tobique. It discharges into Bathurst Harbour; and every season, great numbers of salmon ascend the principal stream, as far as the grand falls, which are about twenty miles above the

head of the tide. The salmon cannot get above these falls; they are high, and the waters are forced, with great violence, down and through a deep narrow gorge, offering no facilities for the ascent.

From the head of the tide, about two miles above the town of Bathurst, there is a constant succession of "rough waters," cascades, rapids, and falls, with occasional pools, up to the grand falls; and in this space, the Nepisiguit has, at many points, much picturesque beauty.

Owing to the peculiar character of this river, it is well adapted to the sport of fly-fishing, and within a few years, it has become the resort of fly-fishers from all parts, anxious to enjoy the noble sport of taken salmon with rod and line. The favourite stations are, at the Pabineau falls, seven miles from Bathurst,—and, below the grand falls, fifteen miles farther up; between these two points, however, there are several places where the sport may be followed with success.

It was found, in ascending the Nepisiguit, on the 3rd and 4th September last, that the river had been fished illegally, from the head of the tide to the grand falls, in every possible way, and that netting and spearing were then going on, although the fish were becoming "black" and thin.

In the great pool, there were, on the first of September, several hundred salmon, and many spawning beds were observed, in readiness for receiving spawn. The fish in the pool could not ascend the falls, and, owing the low state of the water, they could not descend the river; they were like sheep in a fold. Many of them had been wounded by the spear, and were swimming about in a crippled condition; some with part of their tails cut off, and others with portions of their entrails protruding from wounds in the side.

It was said, that a party consisting of persons settled on the upper part of the North West Miramichi, which is but a few miles distant, had been engaged in taking salmon at this pool. Two persons were found there, one named Walsh; the name of the other was not ascertained, but he was said to be employed by Walsh. A net was found drying on the shore; and twenty salmon, newly caught, were discovered in a place of concealment, at a little distance.

The rules and orders of the Sessions of Gloucester, for regulating the salmon fishery in that County, (a copy of which is annexed,) have been framed with much care, and knowledge of the subject, and they would probably be sufficient, if properly enforced; but, as at Miramichi and elsewhere, there is the same want of paid officers to enforce the law.

As the destruction of the salmon, at the grand falls of the Nepisiguit, fell within the writer's own observation, he felt it his duty to address a note to William End, Esquire, the Clerk of the Peace, stating what had been seen, and calling his attention to the subject. What took place thereupon, is stated in the following letter from Mr. End:—

" Clerk's Office, Bathurst, Sept. 20, 1849.

" Sir,—On receipt of your note, from the falls, I thought it my duty to lay the very important information it contained, before a Special Session of the Magistrates.



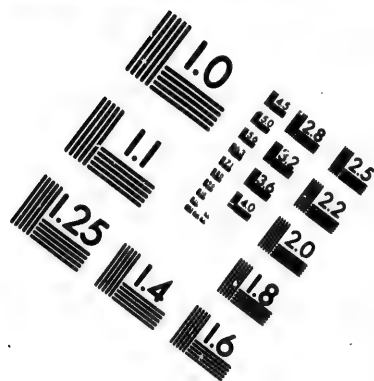
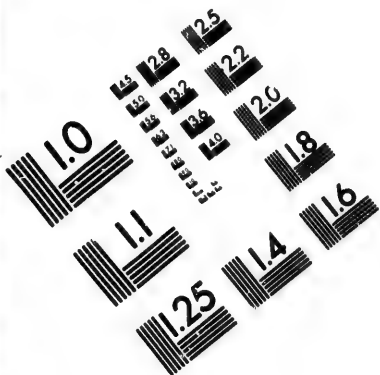
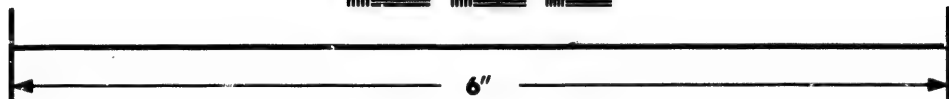
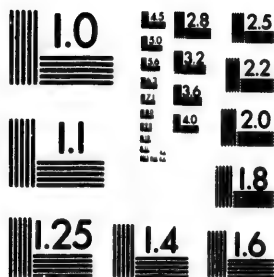


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"The authorities here, have always been alive to the necessity of preserving the salmon fisheries in the Nepisiguit; but from want of funds, and perhaps from defects in the law, their rules and regulations are either openly violated, or secretly evaded.

"The lawless character of the poachers, and the unprincipled conduct of the inferior store keepers, who readily furnish the supplies and become purchasers of the fish, are obstacles not easily surmounted, in a country without a police.

"The Sessions entered, at once, into the spirit of your suggestions, and an overseer of the fisheries, aided by a small *posse*, was immediately dispatched. They proceeded to the places mentioned in your note, and although it was evident that vast quantities had been carried off, they succeeded in capturing (I understand) 144 salmon in Walsh's camp, besides small lots in other places. So much for the result of your one visit to the falls; but I hope that those suggestions, which your personal observation will enable you to make to the Government, will be the means of introducing a system, by which this wholesale destruction of spawning fish, (at a season when they are of little or no value,) may in future be severely punished or prevented, and this item in the very limited inventory of our domestic sources of wealth and industry, may be saved from that destruction by which it now appears to be threatened.

I have the honor to be, Sir,

Your obedient servant,

WILLIAM END,

Clerk of the Peace, County Gloucester.

M. H. Perley, Esquire, &c. &c. &c."

It is vigorous proceeding of the Sessions of Gloucester, shows clearly what may be done, when efficient measures are adopted for preventing illegal fishing.

The trout fishing on the Nepisiguit is exceedingly good, the trout being of large size, and most abundant; but this fishing is generally overlooked, in the anxiety for the more noble sport of taking salmon with rod and line.

There is no land granted on the Nepisiguit River, farther up than the Pabineau Stream, six miles from Bathurst, and the salmon fishery is, therefore, Crown property. It has been suggested, that this fishery might be leased to some responsible person, who should be allowed to fish the river, during the proper season only, and bound to protect it at other times, which would then, in all probability, be done effectively. In this way, the fishing could be preserved from the destruction which now threatens it, and rendered valuable and useful to the public. At present, salmon of all sizes are destroyed, whenever it is possible to do so, by the Indians, the French, and the English settlers; all appear combined to exterminate them if they can, merely from a destructive propensity—for the fish are either lost for want of salt, or else, so imperfectly cured, as to sell for a mere trifle. Mr. Herbert, (better known as Frank Forrester,) in his recent work on "Fish and Fishing in the United States and the British Provinces of North America," at page 140, says,—“the wanton and stupid destruction of all kinds of game, whether feathered, finned, or furred, really appears to be a distinct characteristic of all the white inhabitants of America, wheresoever they are to be found; and it cannot be doubted, that ere long, they will most bitterly regret the consequences of their rapacity and wasteful folly.”

The leasing of the fisheries, in all the rivers in the northern part of the Province, where they yet appertain to the Crown, is a subject worthy of consideration, in every point of view,

The Rivers between Bathurst and Dalhousie.

Between the Nepisiguit and the Restigouche, a number of small streams empty into the Bay of Chaleur, several of which are resorted to by salmon, and nearly all, by large trout from the sea. The principal of these is the Jacquet River, said to take its rise in a small lake, and to be forty five miles in length. The upper part flows impetuously through a mountainous district; the lower portion glides swiftly over a gravelly bed—its waters are clear and brilliant. This river formerly abounded with salmon; there are but few caught in it at present; and as there are no dams on the stream, or any obstruction to the free passage of the fish, they have probably been destroyed, as in the other rivers mentioned. Large white sea trout, fresh run, were taken in the mixed water, at the entrance into the Jacquet River, on the 10th of September last. As the lands upon its banks are all ungranted, the fisheries of this river still belong to the Crown.

At the entrance of the Benjamin River, a dam is built across, to raise a supply of water for a saw mill; and there is attached to the dam, a sluice-way built of planks, sixty feet in length, which has an inclination of forty five degrees. A number of small salmon had collected, last summer, in the pool at the foot of this sluice-way, at a time when, owing to the drought, no water ran over it. With the first rise of the stream from rain the water passed over the sluice-way, but less than a foot in depth. The Honorable Mr. Montgomery stated, that he saw many of these small salmon pass from the pool, up the sluice-way, making three leaps only, when they reached the pond above the dam; he counted a hundred salmon in one day, which made their way up in this manner, the largest was not supposed to weigh more than eight pounds.

The Restigouche.

This is one of the noblest rivers in this part of America. At its entrance into the Bay of Chaleur, it is three miles wide, and from thence to Athol House, above Campbellton, a distance of twenty miles, it maintains a great breadth, and may be considered for the whole distance, one magnificent haven, fitted for ships of the largest class.

The Restigouche is about 220 miles in length, and it has four large tributaries, each more than 60 miles long; with its numerous affluents, it is supposed to drain more than 6000 square miles of territory. At present, this river is the dividing line between New Brunswick and Canada, and the fisheries in its waters are, therefore, under the control of each Colony, to the centre of the channel.

When the French possessed this country, there was a town called Petit Rochelle, which contained more than two hundred houses, on the north bank of the Restigouche, at the head of the tide. This town was destroyed by a British fleet, under Captain Byron, in July 1760, a large fleet of French men of war and store ships being, at the same time, burnt and sunk in front of the town. Some years elapsed before British settlers established themselves on the banks of this river; and it is probable, that for a long period after, no river in North America, (except perhaps the Columbia) yielded

so large a supply of salmon as the Restigouche. But its character, in this respect, is fast passing away; the numbers have fearfully diminished of late years; and, if the present state of things continues, very likely a brief period only will elapse, ere the salmon fishery of the Restigouche will be numbered among the things that have been.

Robert Ferguson, Esquire, of Athol House, who has dwelt on the banks of the Restigouche more than fifty years, stated to the writer, that in the early part of this century, he himself, for many years, caught and exported 1400 barrels of salmon annually. He thought, that the whole catch on this river, the past year, would not exceed 500 barrels; but the season was an unfavourable one; the unusual drought, and the white porpoises in the bay, were both adverse to a good fishery. Mr. Ferguson attributes the great decrease of salmon to the destruction of fish on the spawning beds, in the upper parts of the river, far beyond the settlements, where they are speared, and netted, and poached, in every mode that can be devised.

Mr. John Duncan, a very intelligent and respectable farmer near Campbellton, stated, that he has followed salmon fishing on the Restigouche for forty years; the fishing has greatly fallen off within the last ten years. Twenty years since, according to Mr. Duncan, 3000 barrels of salmon were shipped annually from the Restigouche; in his opinion, not more than 300 barrels were taken the past season. The largest salmon taken, within Mr. Duncan's own knowledge, weighed sixty pounds; in former years, he has known eleven salmon, on the average, to make a barrel of 200lb; more recently, they averaged fifteen to the barrel; in 1848, the fish averaged seventeen to the barrel; but the past season, they were quite small, and very different from those of former years.

In the Restigouche, salmon are taken one hundred miles above tide-water; they are also taken fifteen miles up the Quota-wamkedgwick, one of its upper tributaries. Salmon ascend the Matapediac River, very nearly to the lake, about 60 miles; the fish in this tributary, are known by being larger and much blacker on the back. The salmon on the Restigouche are next in size to those of the Matapediac; the fish which ascend the Upsalquitch are the smallest.

Mr. Duncan stated, that drifting for salmon was practised on the Restigouche, all along the river, for eighty miles above the tide-way; a net, stretched between two canoes, is dragged down stream, and this is called "drifting." Nets are set, at night, quite across the river, where the channel is narrow; at the same time, parties are engaged with torch and spear, in taking salmon, or driving them into the nets. It was mentioned by Mr. Duncan, that two men went eighty miles up the Restigouche, on the 1st of September last, and in a few days, brought down seventy salmon, taken in this way; two Indians, who went up at the same time, also brought down twenty salmon, taken with the spear.

At the close of the season, just before the ice makes in the Restigouche, large quantities of supplies, for the lumberers, are sent very far up the river, in large tow-boats or scows, each drawn by

a number of horses. The upper part of the river is much impeded by broad, sandy shallows, and sand bars; where the water is not sufficiently deep for heavily laden scows, they are dragged across these shallows and bars, by the strength of three, and sometimes nine horses, aided by men. It unfortunately happens, that these places are the favourite spawning grounds of the salmon, and great quantities of the spawn, already deposited and covered, are thus trampled up, destroyed, or washed away. Mr. Ferguson and Mr. Duncan, were both of opinion, that some damage had been done to the salmon fishery, by the "scowing," late in the fall, when the river happened to be in a low stage; on such occasions the spawning beds are sure to suffer. Mr. Duncan however, thinks that the greatest injury to the salmon fishery, arises from the salmon being speared on these spawning beds, up to the very latest moment in the season before the river closes, when the fish are quite worthless; and that the great means of improving the fishery, would be, to preserve the upper part of the river.

Mr. Robert H. Montgomery, of Campbelton, who is well acquainted with the upper part of the Restigouche, described, very graphically, the various modes resorted to, both by Indians and white men, to entrap and destroy the salmon on the river, without reference to time or place, the great object appearing to be, to take the fish, no matter whether they were worth any thing, or not—the spirit of destructiveness seems to have infected every body. The largest salmon which Mr. R. H. Montgomery has seen taken, weighed 47 lbs.

Dugald Stewart, Esquire, of Dalhousie, stated, that no gaspereaux or shad were taken in the Restigouche. He took 26 barrels of salmon last season, at a fishing station owned by himself, at the entrance of the Restigouche, near the "Bon Ami Rocks." Many ling, and large quantities of lobsters, were also taken in his salmon nets, which happened to be deeper than necessary.

The Honorable John Montgomery stated, that salmon are destroyed on the Restigouche, by nets of great length, which are set, as well from the New Brunswick as the Canadian side of the river, and overlap each other, by which the channel is closed, and the passage of the fish obstructed. These nets are kept constantly set during the season, on Sundays as well as other days. Drift nets, extending entirely across the river, are likewise used; spearing on the spawning beds, and drifting over these beds, are also practised. Mr. Montgomery said that spearing goes on at all times, when possible, without regard to season.

Mr. Mann, of Tracadegash, described the salmon fishing of former days, in the Restigouche, as something quite wonderful. At one period, there was a paid overseer on the Canadian side, when the nets were better regulated, and the fishery conducted in a much more proper manner than at present; but, a like paid overseer not being appointed on the New Brunswick side, it was found impossible to regulate the fishery from one side only, and the Canadian overseer was discontinued, since which the fishery has suffered greatly. The largest fish taken in the Restigouche by Mr. Mann, weighed 54 lbs. He thinks the mesh of salmon nets, in this river, should not be less than 6½ inches.

Mr. Mann mentioned, as a fact within his own knowledge, that the first salmon which enter the rivers every season, are almost invariably females, and fish of large size. In a hundred fish of the first run, not a single *male* will be found; the males ascend the river later than the females.

Mr. Joseph Marr, of Tracadegash, said that before the salmon entered the rivers, they went roving along the shores of the Bay of Chaleur, and many were taken on the coast. The fishermen professed to distinguish which rivers were frequented by the salmon caught on the coast, from their shape, size and colour; as a general rule, the fish which entered the Cascapédiac, in Gaspé, were larger than any other. During the past season, many salmon were taken in nets at Tracadegash beach, by Nelson Verge, Esq., which weighed forty pounds each; one taken by Mr. Marr weighed forty seven pounds. An official copy of the orders of the Municipal Council of the second division of the County of Bonaventure, relative to the salmon fishery of the Restigouche, was furnished by Mr. Marr, and is annexed to this Report.

The Act of Assembly in New Brunswick, (8 Victoria, cap. 65,) for regulating the salmon fisheries in the County of Restigouche, contains some very stringent and salutary provisions, but then, they are not enforced. In practice, the Act seems almost a dead letter, as regards the Restigouche River. As stated with respect to the Miramichi, paid overseers seem absolutely necessary to enforce the law; and an arrangement could very readily be made with the Municipal Council, on the Canadian side of the river, for the like officers on that side. Such officers, by a faithful performance of their duties, might so regulate the fisheries, and restrain illegal fishing, as to prevent the entire destruction of the valuable and important salmon fishery of the Restigouche, now in a fair way of being annihilated.

THE RIVERS SOUTH OF THE MIRAMICHI.

The whole line of coast, from Point Escuminac to Baie Verte, is low and sandy, with long narrow islets, or rather sand bars, in front, thrown up by easterly gales. Between these bars and the shore, there is almost a continued series of well sheltered lagoons, perfectly secure, and admirably adapted for boat navigation at all times. Through these sand bars the rivers force their way, by narrow passages called "gollies," from the French term *goulet*; these frequently fill up, and shift their position, from violent gales and heavy seas. Sometimes, the lagoons are closed entirely by severe storms, and so remain, until the accumulated waters within sweep out the old gully, or force a new one. In speaking of the Gulf Coast of New Brunswick generally, this will be designated the Southern District.

All the rivers, in this Southern District, are broad and shallow, and the tide flows a considerable distance up each river, in proportion to its magnitude. In the largest rivers, the tide flows the greatest distance from the sea.

The Kouchibouguac Rivers.

These are the first rivers, of any magnitude, to the southward of Escuminac, and both discharge into the Kouchibouguac lagoon. The Kouchibouguasis is about six miles south of the other, and is the broadest river; the tide flows up it about twelve miles from the lagoon; up the Kouchibouguac the tide flows about six miles. At the head of the tide, on each river, there are dams, with saw mills, above which the fish cannot ascend. There was, formerly, good gaspereaux and salmon fishing in the Kouchibouguac; but the fish being prevented from ascending to their spawning ground, collected every year below the dam, until they were exterminated. Very nearly the same may be said of the Kouchibouguasis, in which a few gaspereaux are yet taken early in the season. The salmon fishery outside the Kouchibouguac lagoon, on the beaches, has been already mentioned; the salmon there are caught roving along the coast, seeking some other rivers which they may ascend.

The Richibucto.

This is a large river, up which the tide flows about twenty five miles from the Gulf; it has five large tributaries, three of which enter on the north side, and two on the south side of the main river. There are dams and saw mills at the head of the tide on the Richibucto, and also in a like position on its tributaries.

Mr. Powell, of Richibucto, stated that he was connected with the firm of Pagan & Powell at that place, in 1798; they continued in business until 1807. They exported during that time, 2000 barrels of gaspereaux annually; one season they exported 3500 barrels. When the firm closed their business in 1807, the fish had become very scarce, but the river not being so extensively fished for some years, the quantity began to increase. The river was again "fished out" some years after; but owing to the fishery not having been so closely followed for the last few years, Mr. Powell thinks the gaspereaux are at present on the increase, as their reproductive powers are very great, if any opportunity whatever is afforded them.

The basse were formerly most abundant in the Richibucto, it being exceedingly well adapted for these fish. They were taken formerly through the ice in the winter season, of large size, in immense quantities, in the manner already described in speaking of the basse fishing of the Miramichi. The fish, when thus taken, were sent off by sled loads, to Fredericton and Saint John, and they were sold all through the intervening country. When a favourable opportunity for this fishing occurred, they were taken in such quantities, that as Mr. Powell described it. they were "corded up" on the ice, like fire-wood; if a thaw occurred before a sufficient number of sleds arrived to take them away, they were wholly lost. In this way, great quantities were destroyed, and there are no large basse in the Richibucto at present; they are now seldom seen over twelve inches in length.

Mr. Powell stated that very few salmon are now caught in the Richibucto, although they were formerly very plenty. On one occasion, many years ago, Mr. Powell himself caught seven hun-

dred salmon, in twenty four hours ; he attributes the great falling off in this fishery, to the erection of dams on all the streams, which prevent the ascent of the salmon to their former spawning place.

In August, 1837, the writer descended from the upper part of the Richibucto, where navigable for a canoe, down to the Gulf. The dam at the head of the tide, had not then been long built ; it effectually prevented the progress of all fish upwards, and below it, there were great quantities of large trout, and some salmon, congregated, endeavouring in vain to get up. When salmon cannot attain their proper spawning places, they drop their ova anywhere in the rivers, without the usual preparation, and appear perfectly indifferent as to what becomes of it. Such has no doubt been the case on the Richibucto ; and it is not therefore surprising, that salmon have nearly disappeared in that river.

Mr. Wathen, of Richibucto, stated that the gaspereaux fishing begins near the end of May, and lasts but a short time. The settlers on the Richibucto, and on the Aldoine, its largest tributary, take them for their own use only, none being now exported. He estimates the whole catch at present, at one thousand barrels annually ; but under proper regulations, he thinks many more might be taken without injury to the fishery. The basse fishing, Mr. Wathen said, was now nearly done. In 1849, while using a seine on the beach, at the entrance of Richibucto Harbour, he took two or three barrels of small basse, at each sweep of the seine, which were salted. When the writer was at Richibucto in October last, the Indians were engaged every night in spearing basse, and between the seine and the spear, even the small basse will shortly be exterminated. It will soon become matter of history that large basse were once taken in great quantities in the Richibucto ; and that salmon were also abundant in that river in former times.

The Act of Geo. 4, cap. 25, empowered the Justices in Kent to make regulations respecting the fisheries of the different harbours, rivers, and creeks, of the County ; but in this as in other Counties, the regulations were not enforced, and hence the decay and almost total destruction of the river fisheries in this County.

The Buctouche Rivers.

The Big and Little Buctouche Rivers both fall into the Harbour of that name. The tide flows up the Big Buctouche about thirteen miles, and up the Little Buctouche about ten miles. Both rivers are in character very similar to the Richibucto, and the same statements with reference to the gaspereaux, basse, and salmon fisheries of that river, will very nearly apply to those fisheries in the Buctouche Rivers. The settlers catch a sufficiency of gaspereaux for their own use. The large basse have been destroyed, but the small basse are yet taken through the ice, and with the spear ; it was apparent, that here also every effort was being made to exterminate these fish. A few salmon yet enter these rivers very late in the season, when just ready for spawning, and being unable to ascend, are destroyed in every possible way, at a time when they are lank, slimy, and quite unfit for use.

A few shad are taken in these rivers, but they are said to be thin and poor. There is great abundance of smelts every spring. Parties of French settlers go up the brooks in log canoes, and each party frequently gets fifty to sixty barrels of smelts, which are used to manure the land. There is an abundance of large eels of fine quality; in the season of 1848 about three hundred barrels of eels taken with the spear in these rivers, were salted for winter use.

The Cocagne River.

The tide flows about seven miles up this river; at the head of the tide, there is, as usual, a mill-dam, which prevents all fish from ascending the river.

Some gaspereaux are yet taken here, but nothing was heard of basse. While the river was unobstructed, many salmon were taken in it; they are now scarcely seen. The dam was placed across this river about 1830; and for several years after, the salmon came up and endeavoured to get over it, but without success. While thus endeavouring to make their way up, they were slaughtered in great quantities, and to such an extent that it is believed none were left to preserve the breed. It was stated at Cocagne, that while the fish were thus collected one season, a Frenchman, in one night, speared a sufficient number of salmon to fill eight barrels; two other Frenchmen, during the same night, each filled two canoes; while several Indians, on the same famous occasion, lent their best abilities to complete the work of destruction! And it was completed.

The Shediac and Scadouc Rivers.

Both these rivers empty into the Harbour of Shediac. The tide flows seven miles up the Shediac River, where a mill-dam prevents its further flow, and the ascent of all fish whatsoever to the fresh water above. Up the Scadouc River, the tide flows three miles, a very short distance above which, a mill-dam also prevents the passage of fish.

As a matter of course, the fisheries of these rivers are nearly extinguished. Very few gaspereaux are now taken; the attempt is made only by those who have failed in taking a sufficient supply of spring herrings. Some small basse are still caught in nets; but salmon are nearly, if not quite, extinct.

While the writer was at Shediac, in November, 1846, a run of salmon, apparently the last of their race, entered the Shediac and Scadouc Rivers, and ascended nearly to the dam on each. It was reported, that on a Sabbath day, many persons were engaged in destroying these fish, (which were black, lean, and slimy,) with spears, scythes, pitchforks, and such other offensive weapons as came to hand; apparently, the destruction was complete, as little has since been heard of salmon in these rivers.

Lobsters, eels, and smelts, are abundant in Shediac Harbour, and its oysters have long been celebrated for their excellence and fine flavour; it must be remembered, however, that those taken near the mouths of the rivers, are greatly inferior to those taken in the deep salt water. For the information of sporting fishermen, it may be mentioned, that there is good fishing for "white trout,"

on the Cocagne, the Shediac, and the Scadouc Rivers; and that smelts and small basse rise readily at the fly, and are frequently taken while fishing for trout.

The Rivers from Shediac to the Nova Scotia Boundary.

The rivers which empty into the Gulf, on this long line of coast, are all flat, sluggish streams, of small size, and no very great length. They furnish gaspereaux and tide trout, but are not large enough for salmon.

Baie Verte is a broad, shallow bay, which, at low water, is dry nearly two miles from the shore, except in the channel, which is then four feet deep, and rather crooked. There is only four feet water on the bar, at low water; the rise and fall of the tide is seven and a half feet. There is a good gaspereaux fishery in the Gaspereaux River, at the head of the Bay, on the New Brunswick side of which, there is no other fresh water fishery of importance.

FRESH WATER FISHES.

In addition to the fresh water fishes already mentioned incidentally, there is the common yellow perch, (*perca fluviatilis* of Cuvier and Valenciennes,) which is found in many of the rivers flowing into the Gulf. The "small American basse," (*perca labrax mucronatus* of Cuvier,) better known as the "white perch" on the Saint John, in many of the tributaries of which it abounds, has not been found in any of these northern rivers.

A great variety of small fish exist in each of the rivers of the north, which it is not necessary to enumerate, as they merely serve as food for larger fish. Fortunately, no pike or pickerel have yet been found in any of the rivers of New Brunswick, and the great abundance of trout, and other river fish, may in some degree be attributed to the absence of these "fresh water sharks," who are most destructive to all other fishes.

COMMERCIAL VALUE OF THE GULF FISHERIES IN 1849. .

The following Tables, compiled by the writer from the Custom House Returns, exhibit the trifling value of the produce of the Sea and River Fisheries, exported from the Gulf Ports of New Brunswick in 1849. The quantity of each article, at each Port, is here exhibited; and it will be observed, that the whole quantity of pickled fish exported, was 3,380 barrels only, and that 2,110 barrels were imported. It will be seen that mackerel were imported, at Miramichi, from another Colony; and that at Richibucto, near which fish are so abundant, 575 barrels of pickled fish were imported from abroad, and 110 barrels only, were exported. The whole value of fish exported during the past year is £15,117 sterling, against which there is the value of the fish imported, amounting to £2,269, leaving a balance of £12,848 sterling only, in favour of the exports of the Gulf Fisheries of New Brunswick.

It must not be forgotten, that the season of 1849, was one of unexampled abundance in the sea fisheries; and the following

tables therefore furnish a severe, but it may be hoped, a most useful commentary upon the state of the Provincial Fisheries within the Gulf of Saint Lawrence :—

Exports of the produce of the Fisheries, from the several Ports of New Brunswick, within the Gulf of Saint Lawrence, during the year 1849.

PORTS.	Dried Fish.	Pickled Fish.	Smoked and preserved Fish.	Fish Oil.	Oysters.
	quintals.	barrels.	boxes.	gallons.	bushels.
Miramichi, ..	..	2,306	531	455	..
Dalhousie, ..	130	344	..	..	..
Bathurst, ..	720	42	..	..	..
Caraquet, ..	16,056	578	..	7,572	2,304
Richibucto, ..	..	110	..	..	240
Shediac, ..	..	..	..	..	..
Totals,	16,906	3,380	531	8,027	2,544

Imports of the produce of the Fisheries, at the several Ports of New Brunswick, within the Gulf of Saint Lawrence, during the year 1849.

PORTS.	Dried Fish.	Pickled Fish.	Smoked and Preserved Fish.	Fish Oil.	Oysters.
	quintals.	barrels.	boxes.	gallons.	bushels.
Miramichi, ..	382	Herrings 1,130 Mackerel 35	..	..	..
Dalhousie, ..	1,153	370	21	772	..
Bathurst, ..	..	..	..	..	..
Caraquet, ..	..	..	..	..	..
Richibucto, ..	138	575	..	260	..
Shediac, ..	..	..	..	..	..
Totals,	1,673	2,110	21	1,032	..

Comparative Statement of the total quantities of articles, the produce of the Fisheries, exported and imported at the several Ports of New Brunswick, within the Gulf of Saint Lawrence, during the year 1849.

1849.	Dried Fish.	Pickled Fish.	Smoked & Preserved Fish.	Fish Oil.	Oysters.
	quintals.	barrels.	boxes.	gallons.	bushels.
Exports,	16,906	3,380	531	8,027	2,544
Imports,	1,673	2,110	21	1,032	..

Return of the estimated value, in pounds sterling, of all articles, the produce of the Fisheries, exported from the several Ports of New Brunswick, within the Gulf of Saint Lawrence, during the year 1849, distinguishing the countries to which the same were exported.

PORTS.	Great Britain.	BRITISH COLONIES.			United States.	Foreign States.	Total Sterling.
		North America.	West Indies.	Elsewhere.			
Miramichi, ..	132	2,820	..	..	1,822	..	£4,774
Dalhousie, ..	27	611	..	..	..	..	638
Bathurst, ...	..	440	..	..	..	..	440
Caraguet, ..	1,148	3,291	..	1,190	..	3,362	8,991
Richibucto, ..	..	274	..	..	..	..	274
Shediac, ..	..	..	..	..	..	..	..
Total Exports,	1,207	7,436	..	1,190	1,822	3,362	£15,117
Total value of fish imported at the same Ports in 1849,	..	2,269	..	..	..	..	£2,269

Return of the quantities of the various products of the Fisheries, exported from the District of Gaspé, during the year ending 5th January, 1850.

DESCRIPTION.	Weight or Measure.	From the Port of New Carlisle.	From the Port of Gaspé.	Total from the District in 1849.	Total in 1848.
Dry Cod,	quintals,	28,239	52,109	80,339	89,931
Pickled Cod, ..	barrels,	..	4,920	4,920	3,977
Do.	quintals,	24	817	841	1,074
Tongues & Sounds,	barrels,	15	6	21	62
Salmon,	do.	..	290	290	275
Mackerel,	do.	..	126	126	160
Herrings,	do.	..	219	219	277
Halibut,	do.	..	50	50	..
Cod Oil,	gallons,	573	50,220	50,793	31,038
Whale Oil,	do.	..	21,720	21,720	6,960
Seal Oil,	do.	..	120	120	600

The value of all imports at the Port of Gaspé in 1849, was £32,286 currency; the value of exports the same year, was £51,880 currency. At New Carlisle, the value of imports from abroad, in 1849, was £12,511 sterling; the value of exports was £37,550. The imports and exports to and from Quebec are not stated in the return from New Carlisle. The exports include birch and pine timber; hachmatack knees, ship timber, treenails, and pegs; hemlock lathwood; spruce and pine deals, boards, and shingles.

In order that some comparison may be instituted between the fisheries of New Brunswick, in the Gulf of Saint Lawrence, and those of the State of Massachusetts, which are so largely prosecuted in the same Gulf, the following official return of the quantities of all descriptions of pickled fish, inspected in that State, during the year 1849, is given:—

"Fish Inspection Office, Boston, January 7, 1850.

"The following is a return of the quantities of all descriptions of pickled fish inspected in this State, during the year 1849:—

Mackerel,	..	..	..	..	..	231,856	barrels.
Salmon,	..	..	..	..	..	1,821	"
Shad,	..	..	..	..	..	416	"
Herrings,	..	..	..	..	..	872	"
Alewives,	..	..	..	..	..	2,189	"
Cod,	..	..	..	..	..	97	"
Menhaden,	..	..	..	..	..	78	"
Sword Fish,	..	..	..	..	..	474	"
Tongues and Sounds,	..	..	..	..	..	413	"
Blue-Fish,	..	..	..	..	..	142	"
Halibut Fins,	..	..	..	..	..	62	"
Salmon Trout,	..	..	..	..	..	76	"

Total, 238,496 barrels.

JOHN P. OGDEN, Insp'r Gen. of Fish."

The salmon and salmon trout mentioned in the above return, were doubtless taken in the Gulf of Saint Lawrence, as there are no such fisheries in the United States. The American fishing vessels obtain salmon on the west coast of Newfoundland, and in the rivers of Labrador, which abound with them. It is known, that they take the large white trout of the Gulf, at the Magdalen Islands, where many of those fish are caught every season in nets.

The Inspector General of Fish at Boston, has kindly furnished the following return of mackerel inspected in the State of Massachusetts, during the last six years:—

In 1844,	..	..	86,180	barrels.	In 1847,	..	..	232,587	barrels.
1845,	..	..	262,302	"	1848,	..	..	300,130	"
1846,	..	..	174,664	"	1849,	..	..	231,856	"

GENERAL SUMMARY.

1. The foregoing Report is based upon personal inspection, and the statements of many persons, of undoubted credit, dwelling near the coasts, rivers and harbours visited. It shows clearly, the great neglect of the sea fisheries, and the rapid decay of those in the rivers, which are threatened with total extinction.

2. The cod, and other deep sea fisheries, of the Gulf coast, are almost wholly in the hands of the Jersey merchants, who conduct their business very admirably, but solely with a view to their own profit, without regard to the interests of New Brunswick. They expend their earnings in Jersey, or elsewhere; they make no investments in this Province—and they do not aid in its advancement.

3. The people of New Brunswick must be incited, and encouraged, to enter into the deep sea and coast fisheries; with moderate capital, and some knowledge of the business, they could, undoubtedly, prosecute those fisheries, with profit to themselves, and much benefit to the country.

4. All the fishing stations on the coasts, beaches and islands appertaining to New Brunswick, within the Gulf of Saint Lawrence,

which are yet ungranted, should be surveyed, and laid out, for "fishing rooms;" and these should be leased, at a fair rental, to persons engaged in the fisheries; the lease to terminate so soon as each "room" ceased to be used for fishery purposes. No fishing "room" should be allowed to engross the whole of any favourite location, where there was sufficient space for more than one; and great care should hereafter be taken, to avoid such improvident grants as that at Point Miscon, which has effectually shut up a good fishing station there.

5. The mackerel fishery is most excellent in the Gulf, near the shores of this Province; but the inhabitants do not avail themselves of its abundance, while citizens of the United States pursue it largely, near these same shores, with much profit. The annexed returns, obtained from Washington through an official channel, show the extent and value of the sea fisheries of the United States; and it must be borne in mind, that these fisheries are more extensively prosecuted in British waters than elsewhere.

6. By the Convention of 20th October 1818, between His Britannic Majesty and the United States of America, it was stipulated, that the citizens of the United States should not, thereafter, fish within three marine miles of any of the coasts, bays, creeks, or harbours, of His Majesty in America. The Crown Officers in England, upon a case submitted to them by the Legislature of Nova Scotia, have given it as their deliberate opinion, that the prescribed distance of three miles, is to be measured from the headlands, or extreme points of land, and not from the interior of bays, or indents in the coast. A copy of the first article of the Convention of 1818, and also a copy of the opinion of the Queen's Advocate and Attorney General of England, are appended to this Report. The principle laid down in that opinion has not been denied, or disputed, by the United States; yet the fishing vessels of that country are accustomed to frequent—and during the past season, did frequent—the Straits of Northumberland, the Bay of Miramichi, and the Bay of Chaleur; in neither of which have they any right to prosecute the fisheries. The citizens of the United States, by their peculiar mode of fishing for mackerel, in places where they have no right, greatly injure the cod fishers, by depriving them of bait; and they also damage the cod fishery, by throwing overboard the bones and offal of the cod which they take. At present, the Convention is openly violated; and American citizens practically enjoy every privilege they desire, save that of landing on our shores, to dry and cure their fish. While the Convention exists, its provisions should be strictly enforced; or else, we lose the advantages of our position, without any equivalent.

7. The resident fishermen have been deterred from engaging in the mackerel fishery, by those interested in the cod fishery; they have been refused supplies of salt, and told they could not compete with the Americans, who were said to possess some secret in relation to it. This adverse influence must be counteracted, and the erroneous impression removed. Very many young men, on the coast, appeared anxious to learn the American mode of catching

mackerel ; and it was proposed, in the Bay of Chaleur, to fit out one or more schooners, and engage Americans as sailing masters, to teach the crew the "art and mystery" of mackerel fishing. There is no doubt, that judicious measures could readily be devised, for establishing this valuable fishery, on a large scale, and induce its being prosecuted by the resident fishermen, to whom it is offered at their own doors.

8. The herring fishery is most valuable and abundant ; it can hardly be surpassed elsewhere. From unskilfulness in fishing, and ignorance of the best mode of curing, this fishery is scarcely profitable, and the salted herrings have no commercial value. The remedy would consist,—in the employment of competent persons, to teach the manner of so arranging the nets, as to take the greatest quantity of fish, at all times,—and of experienced curers, to give instructions in the Dutch mode of curing ; the adoption of which has so greatly increased the demand for Scottish herrings, and rendered that fishery so valuable. The means successfully adopted by the Commissioners of British Fisheries, with respect to the herring fisheries of Scotland, may safely be followed in New Brunswick ; and perhaps the establishment of a Fishery Board, with somewhat similar powers and duties, might also be advantageous, as well to the Gulf Fisheries, as to those of the Bay of Fundy.

Mr. John Mitchell, of Leith, who is engaged in the herring fishery of Scotland, in a letter to the Irish Fishery Board, as to the best mode of improving the fisheries of Ireland, says :—"The people ought to be taught to fish, and particularly, to cure ; quality ought to be made paramount to quantity. The curers of Scotland were much benefited by some Dutch fishermen, brought over, who cured herrings, under my own superintendence, some years since."

With reference to the advantages of a Fishery Board, Mr. Mitchell, in a memorial to the Board of Trade, states, that the British Fishery Board is one of the best managed establishments in Europe, which, by its judicious and well applied regulations, has raised the character of British herrings to a most extraordinary degree, within a few years ; and he conceives, that the prosperity of the fisheries of Scotland, depends upon the existence of the Fishery Board, and its officers.*

9. As a most fitting station for an inspector and teacher of the herring fishery, and for the services of experienced curers, Carquet Island is respectfully recommended. It is in the immediate vicinity of the best herring fishing, and fortunately, it is still the property of the Crown.

Other stations may be selected hereafter, as the herring fishery is extended. It is quite probable, that there are various localities in the Gulf, to which the fall herrings resort, but which are not yet known. It is only forty years since it was accidentally discovered

* The export of herrings from Scotland, in 1837, was 87,388 barrels ; by the Board's exertions, this quantity was increased in 1843, to 181,853 barrels. It appears by a Report on the fisheries of Scotland, by Captain Washington, R.N., [printed in Parliamentary papers of 1849,] that in 1848, there were cured in Scotland, 999,345 barrels of herrings, besides 864,981 cwt. of cod and ling. Captain Washington estimates the value of boats, nets, lines, &c., belonging to the Scottish fishermen, at £1,250,078 sterling.

that herrings resorted periodically to the Firth of Forth, by a man dipping a bucket into the water.

10. The laws for the regulation of the inland fisheries, appear, in general, to have been well devised ; but, there has been a total failure in enforcing their provisions, every where. Hence, the decay of these once valuable and prolific fisheries, now hastening rapidly to their termination. With some amendments and improvements, the present laws might answer the purpose of preserving and increasing these fisheries ; but a general enactment, with adequate means for enforcing its provisions, would probably be found most effective.

11. A "close time" should be established, during which salmon should not be taken in any way. The taking of "grilse," or small salmon, under a certain weight, should be restricted, and their sale prohibited. Spearing should be disallowed, and the regulations generally, for this fishing, should be as uniform as possible.

12. A moderate assessment upon all salmon nets in use, should be levied, and applied to the payment of the overseers of the fisheries for their services. At present, the proprietors of the salmon fisheries on the several rivers, enjoy them without expense, and expect the public to pay for their protection and preservation. The assessment principle has lately been established in Ireland. The Act 11 and 12 Victoria, cap. 92, provides for an assessment on certain engines used in the capture of fish, for the purpose of raising funds for the conservancy and police of the fisheries. Some objections being made to this Act, a Select Committee of House of Commons heard evidence respecting it, at the last Session of Parliament. The Report of this Committee, published in September last, recommends a continuance of the Act, but such a modification of the scale of duties imposed, as would cause the burthen of the assessment to fall, as much as possible, upon those who derived the chief benefit arising from its expenditure.

13. The salmon fishery of the Restigouche, once so abundant and so valuable, requires special attention. The Canadian Government might be moved to take part in the preservation of this fishery ; or the Municipal Council of the Second Division of the County of Bonaventure, could be urged to join in the necessary measures. Some of the gentlemen of this Council, who were met in Gaspé, were most intelligent persons, fully alive to the existing evils, and most anxious that they should be prevented by vigorous action.

14. A law to prevent the use of fish as manure, is greatly needed. The practice is destructive to the fisheries, in every possible way ; and it is injurious to the land, which, although stimulated for a season, is for several years after, rendered almost unfit for agricultural purposes. The effluvia from the decomposition of the fish has been found unhealthy. In Dr. Storer's Report on the Fishes of Massachusetts, (page 118) it is stated, that in the town of Barnstable, large quantities of fish were used as manure, the stench from which was most offensive, so as greatly to inconvenience travellers on the road ; and autumnal fevers and dysentery, were more prevalent in that district, than elsewhere in the vicinity.

The practice has been most extensively followed in the Bay of Chaleur, where the fisheries have suffered greatly in consequence. The action of the Canadian authorities is also required, to give full efficacy to a prohibitory law within that bay.

15. No pickled fish whatsoever, should be allowed to be exported, unless the casks bore the brand of an official inspector; and the sale of such fish within the Province, not inspected and branded, should be punished by forfeiture of the fish, or a sufficient fine. The rigid enforcement, in all cases, of an efficient inspection law, can alone prevent frauds and mal-practices, and establish the character of New Brunswick fish in distant markets.

16. The fisheries belonging to the Crown, in the rivers whose banks are ungranted, should be leased, on condition that each lessee should fish only at the proper season, and protect the river at all other times. By this arrangement, the fisheries of the rivers flowing through ungranted wilderness lands, which are now being destroyed in the most wasteful and reckless manner, might be preserved, and rendered profitable. In Ireland, where rivers, whose salmon fishery was nearly exhausted, have been preserved for a time, the salmon have increased most wonderfully; and the salmon fishery, in some cases, has become of exceeding value, in places where, previously, it had almost ceased to exist.

17. The rents arising from "fishing rooms," and river fisheries, with the addition of any Legislative Grants, might be most usefully and beneficially employed, in extending and improving the fisheries, in a great variety of ways. At almost every fishing station, there is a great want of those conveniences necessary to a successful prosecution of the fisheries. Landing piers, breakwaters and shelter harbours, boat slips and capstans, moorings, and small harbour lights or lanthorns, are all greatly needed; and probably, few better modes could be devised, of assisting and encouraging the industrious fishermen, than by furnishing these conveniences at the public expense. Short roads, or lines of communication, between piers, fishing harbours, or stations, with the nearest high roads, are also required, almost every where. If advisable, premiums might be given for good boats and nets, for the most scientific and successful modes of fishing, or for the discovery of new fishing grounds.

18. It is a duty incumbent upon the people of New Brunswick, to encourage, preserve, and protect, their admirable fisheries. They should, with thankful hearts, use the gifts which Providence has bountifully bestowed, and prevent their reckless and improvident waste; so that they may hereafter be able to render a good account of their stewardship of that which has been beneficently vouchsafed to them.

M. H. PERLEY.

*Government Emigration Office,
Saint John, N. B. 22d January, 1850.*

REPORT

UPON

THE FISHERIES OF THE BAY OF FUNDY.

Laid before the House of Assembly by Command of His Excellency the Lieutenant Governor, and ordered to be Printed 15th March, 1851.

THERE is greater variety in the Fisheries of the Bay of Fundy than in those of the Gulf of Saint Lawrence; and owing to their peculiar character, and a variety of local circumstances, they are prosecuted, in several respects, in modes which give to them unusual interest.

The character of the Bay itself is very peculiar. Its shores on both sides are rocky and abrupt, while near its head (divided into two separate basins) the tide, pressed in and confined within diminished limits, rushes with much violence and "hot haste" over extensive and wide-spreading mud-flats, and rises perpendicularly sixty feet or more.

It is asserted by geologists, that the Bay of Fundy has been scooped out by the powerful action of the Gulf Stream, which, carrying off the softer and more friable rocks that anciently filled its basin, has been checked in its ravages by the stern and unyielding cliffs of primary rock which now constitute its iron bound shores, and frown down upon its rushing waters.

A modern writer, describing the supposed formation of the Bay, says—

"A vast and uninterrupted body of water, impelled by the trade wind from the coast of Africa to the American Continent, strikes the Nova Scotia shore between 44° and 45° north latitude, with a force almost adequate to its total annihilation. A barrier of fifteen miles only in width, between the Atlantic Ocean and Gulf of St. Lawrence, seems to have escaped such a catastrophe—while a space of one hundred miles in length, and upwards of forty in breadth, has been swallowed up in the vortex, which rolling its tremendous tides, of sixty and seventy feet in perpendicular height, up the beds of the adjoining rivers, has converted them into inland seas."

Such being the character of this Bay and its extraordinary tides, it may readily be supposed, that its varied fisheries are influenced by local position arising from the greater sweep or indentation of the coast in particular places, and the position of headlands, islands, and the mouths of rivers,—all tending to increase or diminish the rush of the tide, thus influencing the course of the great bodies of fish which frequent the Bay during each season, while affording to each some especial or favourite place of resort where food is found in abundance, or in which its spawn may be deposited in such manner as will best tend to the propagation of the species.

In order, therefore, to a comprehensive view of the fisheries of the Bay of Fundy, it will be necessary, in the outset, to describe the various fisheries, in their several localities. To do this with

precision, and in a manner readily understood, the northern, or New Brunswick side of the Bay of Fundy, commencing with Grand Manan, will be first noticed; after which, the southern, or Nova Scotia side of the Bay, and its fisheries, will be described in their order, from the eastern extremity, or head of the Bay, to Brier Island.

THE NEW BRUNSWICK SHORE.

Grand Manan.

This Island is in shape an irregular oval, the extreme length being nearly twenty miles, and greatest breadth about eight miles. Its general trend is from southwest to northeast, like the neighbouring coast of the mainland, from which it is separated by a passage about fourteen miles in width. The western shore of the Island, throughout nearly its entire length, presents a succession of lofty mural precipices, with few and limited beaches, and deep water in immediate proximity—without shelter even for boats, except at Dark Harbour, which is more particularly noticed hereafter. From the western shore, the land has a gradual slope to the eastern side of the Island, which has many indentations, although destitute of harbours that are secure against easterly or southerly gales.

The principal fisheries of this Island, are those for cod, pollack, hake, and herring; and the mode of conducting these fisheries, and curing the fish taken, will be described from information obtained at the several localities which were visited.

Cameron's Cove.—This is a narrow cove at the northern extremity of the Island, to the southward of a curiously projecting spur of rocks, called the "Swallow's Tail," which separates it from Whale Cove. At this place, Mr. J. B. Pettes, an American citizen, has a neat fishing establishment, and a store for retailing merchandise and groceries. It is alleged, that he manages to transact a profitable business, without himself entering into the fishery, by purchasing green fish from the fishermen, and curing them on his own premises.

On the 28th August last, the writer visited Cameron's Cove. At that period, the hake (*Phycis Americanus*) were in full season. On a bank about two miles from Cameron's Cove, extending from the Swallow's Tail to a small island called "Long Island," the hake were taken in abundance in 28 fathoms water, by fishing during the night, at which time this fish is on the feed, and takes bait greedily. At day-break, the fishing boats return to the shore, when the fish are thrown out upon the beach with a pitchfork. Soon after sunrise, the newly caught hake were observed by the writer lying on the gravel beach, sweltering under the heat. There were no splitting tables, as in a well conducted establishment, but the fishermen set up pieces of board upon the open beach in a temporary manner, on which the fish were split; they could not be said to be cleaned, as no water was used in the operation. The heads and entrails were separated from the bodies of the fish,

which, being split in a clumsy manner, with uncommonly bad knives, were thrown down upon the gravel; thence they were carried off on handbarrows, upon which they were tossed in a heap, three or four at a time, with pitchforks. From the barrows the fish were pitchforked into the scale to be weighed; from the scale they were again pitchforked upon the barrows; and being carried off to the pickling casks, were once more pitchforked into the pickle; by this time the fish were perforated in all directions, and looked little better than a mass of blood and dirt. The fish which were lying on the flakes were covered with scales on the inside, or split portion of the fish, which had a most disagreeable appearance.

The fishermen here, stated, that during the previous night, a Yankee schooner, called the "John Drake, of Lubec," had anchored on the hake-ground, not more than a mile from the extremity of the Swallow's Tail, and being provided with abundance of bait and a numerous crew, had soon attracted all the fish about her. The fishermen had gathered around the schooner in their boats, and desired the skipper to move off; on his refusal, they pulled towards the shore to bring off an additional force with fire arms, when the skipper lifted his anchor and made sail. The fishermen then returned to their ground, and had good fishing during the night. They complained that the large American schooners frequently came in this manner upon their ground, and broke up the fishing, if they were not strong enough to drive them away.

Doggett's Cove.—This is an open beach, west of Cameron's Cove, where Mr. Nathaniel Doggett has a curing establishment. When this place was visited, the fishermen were engaged in splitting hake, in the rude and dirty manner already described. Mr. Doggett stated, that hake were never washed after being split, but were immediately put in pickle, in all their blood and dirt. In this pickle the fish remain 24 hours; then being taken out and washed with it, they were put in another pickle, in which they remained eight days. At the end of that time, they were put on the flakes to dry, and if the weather was good, they would cure in three days. The fish are not put into pile to sweat, after being dried on the flakes, but are at once removed into store, and then considered fit to be sent to the markets of the United States or the West Indies.

The pickle for hake is made of exceeding strength, a bushel of salt being used for each quintal of fish; every effort appears to be used to make the fish weigh as heavily, and render them as salt as possible; the fish are not washed, lest the removal of the blood and slime should detract from their weight.

Mr. Doggett described the mode of curing cod at Grand Manan. He said, that after being split, the cod are washed in sea-water, and salted in hogsheads, in which they lay four or five days in pickle which they make themselves. They are then taken out, and drained twenty four hours on a *kinch*, or flat pile, after which they are placed on the flakes. In good weather, they cure in six or eight days; in general they are not sweated in pile, but are at once put in the store.

Pollack are cured in the same manner as cod. Haddock are cured the same as hake, except that they are put in kinch, to drain for two or three days, before being put on the flakes. In salting cod and pollack, half-a-bushel of salt only, to the quintal, is used.

Flagg's Cove.—In this cove, there is a wharf or breakwater, which gives some shelter to small craft; but the whole line of Long Island Bay, in which these coves are situate, is greatly exposed in easterly gales, when a tremendous sea comes tumbling in.

Mr. Lorenzo Drake and Mr. John A. Hartt have each stations here, at which they purchase green fish for curing. Cod, pollack, and hake, fresh from the knife, are taken at 262lbs. the quintal; when pickle-salted, they are taken at 224lbs. for the quintal. When these establishments were visited, they were taking in cod at ten shillings per quintal, and scale fish at five shillings per quintal, payable in merchandise. The pollack were said to be of smaller size than formerly, one hundred of them only making two quintals of dry fish.

In the evening the writer observed, in this cove, eight boats with torches, "driving" small herrings for bait. An American fishing boat from a vessel in the offing, came to the shore, and having procured material for torches, commenced "driving" with the others. Mr. Hartt stated, that on the 4th July last, there were about twenty American fishing schooners at anchor in Long Island Bay, and while they were engaged in firing salutes in honor of the day, H. M. Sloop "Sappho," suddenly rounded the Northern Head, when they all weighed anchor, in great haste, and stood out to sea. The "Sappho" having passed along the coast to the southern end of the Island, these vessels returned to their anchorage in the afternoon, and finished firing their salutes.

It was stated here, that five American vessels fished in this bay, at about a mile from the land, during all the last winter. The fishermen of Grand Manan complained of these vessels, which were numerous manned, and occupied the best ground, to the exclusion and injury of the fishermen residing on the shores.

Mr. Hartt said, there was no inspection of fish whatever at Grand Manan, or any pretence of inspection. Every man cured and packed his fish as he pleased; and he mentioned as among the evils flowing from this state of things, that he had purchased, in a previous season, several barrels of herrings, put up near the Southern Head, on examining which, he found that many of the fish were not gibbed, others had become rotten before salting, and the contents of the barrels were quite worthless.

Long Island.—This Island lies in front of the bay of the same name. Mr. Ingersoll is the only resident settler; there is one clearing of no great extent—the rest of the Island is in wood.

On the Island there were forty fishermen encamped, having among them thirteen boats. These men were from Nova Scotia, and it was said that they came over every year from Brier Island, and its vicinity, and remained during the fishing season. The fish they catch they sell in a green state to the Grand Manan dealers, who furnish them with the requisite supplies.

It was stated here, that during the preceding week, one boat, with two men only, had taken ten quintals of hake for two nights successively. It was said that the hake fishing was gradually falling off here; but that the pollack fishing was better than it had been for twenty years.

Bencraft's Point.—There are three large brush weirs near this point, and a fourth in course of erection. They are intended to take small herrings for smoking, but the past season very few were taken. These weirs so fill up the channel, that it is somewhat difficult to navigate among them.

High Duck Island.—The fishing establishment on this small Island, belongs to Wilford Fisher, Esquire. There are weirs for taking herring in connection with this establishment, which consists of a warehouse for goods, two fish stores, and two large smoke houses. These smoke houses, like all others which were observed at Grand Manan, were far too low, and insufficiently ventilated. The fires were made too near the fish, which thus became heated and seriously injured.

When this Island was visited, there were a number of boats at the landing, from which hake were being delivered; these were pitchforked about in the same reckless and extraordinary manner as at Cameron's Cove. There seemed to be the same desire to make the fish weigh heavy, no matter by what means the extra weight is gained.

At the close of the fishing season, Mr. Fisher (who resides at Eastport) stated, that the catch of herrings at Duck Island weirs only amounted to 175 boxes; in 1849 it amounted to 5000 boxes.

Gull Cove.—This pretty little cove is in Whitehead Island, which lies to the southward of Grand Manan, at no great distance from it. There were a number of small fishing schooners in this cove, at anchor, waiting for the tide. Among them was one American vessel, the "Glide," which appeared to fish with the British vessels without observation or hinderance.

These vessels were engaged in fishing for pollack, on the "rips" or "rippings" off Grand Manan. These "rips" are formed by strong currents and the conflict of tides, in which the lively pollack delight to play, as there they find abundance of small herrings for food. For this description of fishing, the vessels are kept under easy sail, the lines being attached to poles of about seven feet in length, which project from the sides of the vessel. A round bright lead is used, about seven inches in length, weighing from half a pound to a pound and a half; the bait is a piece cut from the under, or bright part of the pollack, which is called a "last;" this being kept in brisk motion by the sailing of the vessel, closely resembles a living fish darting through the water, and is eagerly chased by the pollack. The fishers often take twenty pollack with a single "last," it being a very tough bait.

On Whitehead Island, immense numbers of the herring, or silvery gull, (*larus argentatus*,) build their nests on trees, and there rear their young. As the fishermen rob these nests of the eggs as often as possible, the birds continue to breed all the season,

and when this Island was visited at the end of August, there were numbers of young birds on the nests unable to fly. The herring gull is intimately connected with the herring fishing, its presence generally denoting the course of the shoals of fish upon which it preys; it is therefore closely observed by the fishermen, who draw from its motions tolerably correct conclusions as to the presence of fish, and their numbers.

Whitehead Island was granted to the late Wm. Frankland, who resided upon it, until his death a few years since. The celebrated naturalist, J. J. Audubon, visited this Island in the American Revenue Cutter "Swiftsure," and landed at Mr. Frankland's in Gull Cove, on the 22d May, 1833. In his great work on the Birds of America, vol. 7, page 163, Audubon thus speaks of his visit, and of the herring gulls:—

"I was greatly surprised to see the nests placed on the bushes, some near the top, others about the middle, or on the lower part of the trees, while at the same time, there were many on the ground. It is true I had been informed of this by our captain; but I had almost believed that on arriving at the spot I should find the birds not to be gulls. My doubts however were now dispelled, and I was delighted to see how strangely nature had provided them with the means of securing their eggs and young from their arch-enemy, man. My delight was greatly increased, on being afterwards informed by Mr. Frankland, that the strange habit in question, had been acquired by these gulls within his recollection, for, said he—'When I first came here, many years ago, they all built there nests on the moss, and in open ground; but as my sons and the fishermen collected most of their eggs, and sadly annoyed the poor things, the old ones gradually began to put their nests on the trees, in the thickest parts of the woods. The youngest birds however, still have some on the ground, and on the whole are becoming less wild, since I have forbidden strangers to rob their nests, for, gentlemen, you are the only persons out of my family, that have fired a gun at Whitehead Island for several years; and I dare say you will not commit any greater havoc among them, than is necessary; and to that you are welcome.'

"I was much pleased with the humanity of our host, and requested him to let me know when all the gulls, or the greater part of them, should abandon the trees and resume their former mode of building on the ground, which he promised to do. But I afterwards found this was not likely to happen, because on some other islands not far distant, to which the fishermen and eggers have free access, these gulls breed altogether on the trees, even when their eggs and young are regularly removed every year, so that their original habits have been entirely given up. My opinion, that after being thus molested for some time longer, they may resort to the inaccessible shelves of the rocks of these islands, was strengthened by Mr. Frankland's informing me, that many pairs had already taken refuge in such places, where they bred in perfect security.

"Some of the nests which I saw were placed at a height of more than forty feet on the trees; others seen in the thickest part of the woods were eight or ten feet from the ground, and were placed close to the main stem, so as to be with difficulty observed. It was truly curious to see the broad-winged birds make their way to and from them, in these secluded retreats."

At Gull Cove the writer engaged Mr. Wm. Frankland, the son of the grantee of the Island, whom Audubon mentions, and who occupies his father's residence, to pilot the hooker among the reefs and crooked channels which are numerous in this vicinity. In sailing from Gull Cove to Grand Harbour, thousands of gulls were observed returning at nightfall, to their nests on lofty spruce trees, in a thick wood on Ross' Island. It was stated by Mr. Frankland, that since Audubon's visit, to which he alluded, the gulls had given up entirely their natural habit of building nests upon the ground, and had taken wholly to the trees, in consequence of their constant disturbance by the fishermen, and the robbing of their eggs.

The flight of the herring gull is as strong as that of the great blacked-backed gull, but more buoyant, as well as graceful. Their food consists principally of herrings, of which they destroy great numbers, following the shoals, and indicating their course. They also feed on other fishes of small size, as well as shrimps and crabs.

The shores of the Islands on which they breed, are covered with multitudes of sea-urchins, having short greenish spines, which give them the appearance of a ball of moss. At low water, the herring gulls frequently devour these animals, thrusting their bill into the shell, and sucking its contents.

Grand Harbour.—While piloting the hooker into this harbour, Mr. Frankland pointed out places at its entrance, where it was quite customary in former times for a boat, with two men, to take seven or eight quintals of cod in a day. At present, there is no line-fishing at this place, the fish not coming in, owing to the shoals of small herring, on which they feed, being broken up and destroyed by the brush weirs.

At this place, Cochran Craig, Esq., J. P., furnished the numbers of boats and men employed in the fishery between this harbour and the Southern Head, which will be found in the Table hereafter; and a letter which Mr. Craig subsequently addressed to the writer, in answer to the Fishery Circular, will be found in the Appendix.

The upper part of Grand Harbour is well sheltered, but it is almost entirely dry at low water. It abounds with lobsters, which during the season, may be taken with a gaff, in almost any quantity. The gaff is merely a cod-hook, without the barb, attached to a light pole, six feet in length. As many as were required for the hooker were quickly taken in this way, in two to four feet water; the places resorted to by lobsters were easily known, by the holes made by them in the flats in digging for clams on which they feed. There is great abundance of clams in these flats, and it was stated, that at low spring tides they could be procured of very large size.

A large brook, the largest in Grand Manan, falls into the head of this harbour; during the winter great quantities of Tomcod (*morrhua pruinosa*) are taken from it, but no smelts. It was said that smelts are not found about this Island, and that trouts are very scarce and small, rarely exceeding a quarter of a pound in weight.

The Southern Head.—Mr. Frankland having given the necessary sailing directions, left the hooker at Grand Harbour, from which she was beat down to the Southern Head, against a strong south-wester. Upon the spawning ground, within the Head, forty eight fishing vessels were found at anchor, and in the midst of them, the Revenue Cutter "Phantom," under the command of Captain Dudne.

Although the season was far advanced, (29th August,) yet the herring-fishing had not fairly commenced, the fish not having struck in. Subsequently, some were taken, but on the whole, the fishery was a decided failure, not more than one-third of the usual quantity having been taken.

At Wilcox Cove, about two miles to the eastward of the Head, there is said to be a small sand-bank, upon which the herrings rush to deposit their spawn. They often congregate in such numbers as to overspread it completely, and thousands of fish are thus compelled to drop their spawn on the very rough, rocky bottom out-

side the bank. The spawning season is from the 15th July to the 15th September, after which period it is said, very good herrings are often taken, with a mesh of 2½ inches.

The fishermen set their nets from Wilcox's Point, all around the Head, to Bradford's Cove, on the western side of the Island, a distance of nearly four miles. The nets are set close to the shore, in about ten fathoms water; each net is from 20 to 30 fathoms in length, about 160 meshes deep—mesh from 2½ to 3 inches, on the average about 2½ inches.

The Southern Head rises almost perpendicularly from the water 200 feet or more; the settler on its summit is named M'Donald, who thus occupies the extreme southwestern tip of New Brunswick, as Louis Gautier (mentioned in the Report of last year) possesses its northeastern extremity at Point Miscou, on a low sand plain, elevated only a few feet above the sea. The habitations of both are almost equally miserable, although M'Donald has the advantage of a greater quantity of land fit for cultivation, and enjoys a milder climate, there being a difference of nearly 3½ degrees of altitude between the two locations.

Andrew Wilcox, who lives to the eastward of M'Donald, at much less elevation, has a farm under some degree of cultivation; although the land is gravelly and poor, his new potatoes, green peas, and other vegetables, were excellent. Andrew Wilcox stated, that he had lived at this place three years, but was not a fisherman; he is on good terms with the fishermen who resort here annually, and who are good customers for the produce of his farm.

The other settlers in the vicinity, not exceeding in all a dozen families, are at open war with the non-residents who come here to fish; these, he said, had borne the annoyances of the Islanders very patiently, and on the whole, had behaved exceedingly well. It was stated subsequently by another party, that Andrew Wilcox allowed the fishermen to land from their schooners and occupy a grass plat in front of his house, for the purpose of mending their nets, by which he had obtained the ill will of his neighbours, who had subjected him to some vexatious annoyances.

At night-fall, the fishermen set their nets by attaching them to the buoys, ropes, and moorings, which are put down at the beginning of the season, and are not taken up until its close. At daylight next morning, (30th August) when the nets were lifted, it was found that in all that immense number of nets, extending more than three miles, one net only contained fish; but, from that net sixteen barrels of herrings were taken. Most of the nets were set with their upper edge at the surface of the water, but some few were set with five fathoms of strap from the cork line, consequently the lower edge, or lead line, was very near, or actually rested upon the bottom; yet all were equally unsuccessful. Many of the nets were thickly covered with herring-spawn, and in cleaning them, the decks of some of the vessels were covered ankle deep. It was said to be no unusual circumstance for the net-rope, (9 thread ratline) to be found in the morning as thick as a man's arm with the spawn, while a vessel's cable would be increased to the size of a five gallon keg.

It having been intimated that the writer was anxious to see the settlers at this place, Daniel M'Laughlin (Captain of Militia), with Messieurs Harvey, Worcester, Matthews, M'Donald, and Dyer Wilcox, came on board the hooker. They complained of the number of vessels which came upon the fishing ground, considering them as encroaching upon, and usurping a privilege which ought to belong to the settlers in that vicinity, exclusively. They pointed out among the fleet at anchor, a large schooner called the "Mountaineer," belonging to Saint John, which they said had twelve men, with four boats and thirty six nets, more than all the inhabitants could muster for eight miles. The fishery, they said, was continually falling off, and would eventually be destroyed, from the reckless manner in which it was prosecuted, and the place being over-fished. As the law formerly stood, each vessel was restricted to 30 fathoms of net, and a boat to 15 fathoms; herrings were then abundant, and so were cod, close to the shore, where none are taken now. As the herring come all at once upon the spawning ground, almost in solid bodies, they are taken in such quantities that the fishermen are unable to cure them as fast as caught; many are put up without being gibbed or washed, after putrefaction has commenced, while quantities of rotten fish are thrown overboard, to the great detriment of the fishery, and its permanent injury.

It was stated to these men, that the fishermen in the schooners complained of their nets being frequently cut and destroyed, and often carried off altogether. They denied most positively being in any manner concerned in these outrages, which they said were committed by fishermen who came there in vessels, without any outfit but "a rope and a stone," but who departed with a full fare of fish, and a good complement of nets. As a remedy for this, they suggested the appointment of an Inspector, who should examine each vessel as it came upon the ground, and mark and register its nets; thus the vessels without an outfit would be known, and prevented from plundering those well fitted. The Inspector also should see that the nets were set at proper intervals, and not too many of them in a given space; and that he should have power to prevent nets being set in the day time, as nothing tends more to break up and destroy herring fishing. They pointed out several gangs of nets, which, at the moment, were set for the day, the cork line about two fathoms below the surface; as the sun was very bright, and the water clear, these nets were plainly to be seen. The nets set on Saturday night were often allowed to remain in the water until Monday morning, which they said was highly injurious, as it undoubtedly is, to the herring fishery.

In September, the number of fishing vessels at the Southern Head, amounted to one hundred or more; in 1849, the total number was 120. The presence of the Revenue Cutter alone prevented a scene of disorder and confusion, as well as great destruction of nets and other valuable property. After the nets were set for the night, all the fishing boats were ordered to return to the vessels to which they belonged; while the boats of the Cutter rowed guard during the night, to prevent persons from injuring or stealing the nets. Yet, notwithstanding these precautions, and the exercise of

great vigilance, nets were continually destroyed or stolen, especially during dark and windy nights, when the depredators could not be seen or heard. It was said, that boats with old scythes attached to their bottoms, had been rowed swiftly among the nets, by which great damage had been done.

While the writer was at the Southern Head, the skipper of a fishing schooner applied to Captain Dudne of the Cutter, for a warrant to take some nets then on the ground, which had been stolen from him there the previous year. Captain Dudne, not being invested with Magisterial authority, could not grant a warrant; but he sent for the party who had the stolen nets in possession, and advised him to give them up, for fear of consequences—but it was not done.

The observations on this fishery will be found in the summing up of this Report; and a letter from Captain M'Laughlin, expressing the views of himself and his neighbours in relation to it, is in the Appendix.

Captain M'Laughlin having stated, that he was thoroughly acquainted with the mode of fishing for mackerel, so successfully practised by the Americans in the Gulf of Saint Lawrence and Bay of Chaleur, he was requested to furnish his description of it, which he very kindly has done, as follows:—

"The vessel starts for the fishing ground with the trail line out; if it catch a mackerel, the vessel ~~is~~ hove to, on the larboard side. The baiter stands amidships, with the bait-box outside the rail; with a tin pint nailed to a long handle he begins throwing out bait, while every man stands to his berth. If they find mackerel, the foresail is taken in, and the mainsail hauled out with a boom-tackle; then the fishing begins. You haul the line through the left hand with the right, and not hand-over-hand, as you do for cod; if you do, you are sure to lose your fish after it breaks water. When your fish is near coming in, you must take it, by leaning over the rail, to prevent its striking against the side of the vessel, catching the line quick, close to the fish, with the right hand, unhooking it, with a sling, into the barrel—with the same motion, the jig goes out in a line parallel with your own berth. You must be quick in case a mackerel takes your other line, and entangles your comrades. You fish with two lines, most commonly seven fathoms long—that is, in heavy weather. In calm weather, the jigs are lighter than when it blows hard; there is an eye spliced at the end of the line, so that the jig may be shifted at pleasure. There are two other lines used, called fly-lines, with smaller hooks; when mackerel are shy in biting, they will often take these. The fly-lines are only three fathoms long. Very often the mackerel stop biting; then the fishermen take the gaffs, and work with these until the fish disappear. The gaffs must not be used while the lines are out, as they entangle them, and cause great trouble. No man must leave the rail to pick up fish which miss his barrel and fall on the deck, until the fishing is over.

"You must take care to dress your mackerel quickly, as they are a fish that is easily tainted. When you stop fishing, the captain or mate counts the fish, and notes down in the fish-book what each man has caught. Then the crew goes to dressing and splitting; the splitter has a mitten on the left hand, to keep the fish steady to the knife. Two men gib the fish with mittens on, to prevent the bones scratching their hands. One man hands up fish to the splitter, while the rest of the crew draw water, to fill the barrels in which the fish are put to soak. The fish are put in the soak-barrels back up; in a short time the water is shifted, and the fish washed out for salting. The salter sprinkles a handful of salt in the bottom of the barrel, then takes the fish in his right hand, rolls them in salt, and places them skin down in the barrel, until he comes to the top layer, which he lays skin up, covering the top well with salt.

"Herring or small mackerel are the best bait that can be used. These are ground in a bait-mill, by the watch at night; if the vessel has no bait-mill, the

fish are chopped up with a hatchet, or scalded with boiling water, in a barrel or tub.

"When there is a fleet of mackerel vessels fishing, they often lee-bow each other—that is, run ahead of one another, and so draw the fish toward the shore. There they anchor, and put springs on their cables, which is done by taking a strap outside the hause-hole, fastening it to the cable, then hooking it to a tackle, and hauling it aft, at the same time paying out the cable. This brings the vessel broadside to the wind, or current, and the fishing goes on. Boats may fish with the same success as vessels, when moored in this manner.

"This is the whole system of mackerel fishing, British or American, and requires nothing but activity and energy. These observations are the result of ten years experience in British and American vessels."

Dark Harbours.—In rounding Southern Head, it was observed that the water for nearly half a mile from the shore, was dotted with buoys, casks, and floats, of every description, while below the surface, there appeared a complete entanglement of ropes and lines, so numerous were the moorings. Pollack of large size were here taken in pairs, as fast as they could be hauled in; but after passing the isolated rock on the western shore, called "Statue Rock," or "The Old Maid," there was no more fishing. The cliffs rise from the sea perpendicularly, to the height of several hundred feet; the rock is trap in columnar form; and these stern and lofty cliffs extend about twelve miles along the shore, without the least shelter for boats, and with scarcely a landing place, until Dark Harbour is reached. This is so singular a place as to require especial notice.

Dark Harbour is a salt water lake, about one mile and a quarter in length, and half a mile in width; the water is from five to nine fathoms in depth, the latter being the prevailing depth throughout, except near the shores. It is separated from the Bay of Fundy by a sea-wall of stones and gravel, about 400 feet wide, which has an easy slope seaward, but is quite steep on the inside, towards the harbour. This curious and really beautiful sheet of water was entirely cut off from communication with the sea, until 1846, when a channel was cut, through the sea-wall, of sufficient width to admit large vessels. In consequence of this admission of the tide, the water within the harbour was raised permanently eight feet, and very many trees, growing on the landward side, were killed by the rise of the sea water upon their trunks.

On the western side of the channel into Dark Harbour, there is a breakwater of timber and stone, to break the force of the sea thrown in by the northwesterly gales, and prevent the channel from filling up. When the rising tide attains a sufficient height, it rushes through the channel into the harbour, with a steady roar, until high water; and on the ebb, rushes out with equal noise and turbulence.

On the landward side of the harbour, there are about fifty acres of cleared land; the soil is good, but somewhat stony. On the top of the hill, which slopes rather steeply to the water, there is some good land, the soil a deep loam. The settlers are John Sinclair, who has resided here 25 years; John Urquhart, 10 years and upwards; and Duncan Anderson, a resident of 4 years. There are also the son and son-in-law of Urquhart, who live on the eastern side of the harbour; Urquhart himself lives upon the glebe lot on the western side. Duncan Anderson is very intelli-

gent, and furnished much interesting information. He stated that the depth of water in the channel at high water, varies from 8 to 13 feet, according to neap or spring tides. There is considerable outfall on the ebb, but fishing boats pass out safely, even when there is 8 feet fall; at low water there is only 2 feet in the channel. During the season of 1849, the settlers caught 100 barrels of fine herrings within the harbour; but fishing vessels enter the harbour at nightfall, shoot their nets, and leave again early in the morning—it is not known what quantities they take.

Anderson stated, that a herring net, such as he used, of 20 fathoms in length, $2\frac{1}{2}$ inch mesh, and 160 meshes deep, costs £3—made up thus—Twine, 20s.; netting, 20s.; lead, 5s.; rope, 10s.; floats, &c., 5s.—total, £3. He said there was great abundance of herrings along the west side of the Island, but nets were not set for them, on account of the numbers of dog-fish, which cut up the fish, and destroyed the nets. The want of boat-shelter and landing-places has, however, more to do with this neglect, than the ravages of the dog-fish. Anderson said, that men without means should not settle here; but men possessing some property would do well enough. Inside the harbour, rock cod and small pollack are always to be caught; and sometimes these fish of large size are abundant.

The channel at low water was examined; the bottom appeared to consist of large boulder stones, thickly covered with kelp. The breakwater requires to be carried further out, in order to protect the channel effectually. Anderson said the necessary extension could be built for £100, if notice was given the previous winter, so that logs and timber could be hauled out, while the snow was on the ground. He was employed in cutting the channel and building the breakwater, and thought himself qualified to judge of the expense.

It would be of great advantage to the valuable fisheries on the west side of Grand Manan, if the channel into Dark Harbour was deepened, so as to admit vessels with the flowing tide; and of still greater importance to the coasting trade, as well as to loaded timber ships, or other vessels with cargo, if the entrance was so improved, that Dark Harbour might be a sure and certain harbour of refuge at all times. Once within the sea-wall, vessels are as completely land-locked, and may ride in as perfect safety as if in an inland lake, however violently the tempest may rage without; and upon such a precipitous and iron bound shore as the western side of Grand Manan, with nothing but certain destruction to the tempest-tossed mariner who may be cast upon it, this sole place of safety should by all means, and under every consideration of humanity, be rendered easily accessible at all seasons, either by day or by night, and readily found. A few hundred pounds might well be spent in giving perfect access to this most singular and exceedingly safe harbour, within whose lofty sea-wall, accumulated by the mighty waves of many centuries, the largest ships may lay afloat within a stone's cast of the shore, riding safely with the smallest hawser, while a fearful surf thunders upon the beach without, apparently with sufficient roar, and uncontrolled violence, to shake the Island to its lowermost foundation.

The advantages of Dark Harbour, as a place of refuge, can scarcely be appreciated by those not acquainted with its unusual and extraordinary character and position. The preservation of a single life is of infinitely greater account, than all it would cost New Brunswick to render Dark Harbour easily accessible, not merely by fishing vessels, but by ships of the largest class, to which, when attained, it would afford the most perfect safety. The cause of humanity urges the expenditure, independently of the strong arguments which might be adduced with reference to the preservation of valuable ships, and much costly merchandize.

Money Cove.—This cove is some two or three miles east of Dark Harbour; a brook flows down a very narrow ravine between two massive cliffs, which rise on either side to the estimated height of 800 feet or more. A slight indentation of the coast affords space for a small gravel beach at the base of the cliffs; and here Mr. John A. Hartt, during the past season, erected a brush weir, which cost £350. In this weir were taken several hundred barrels of herrings of good size and in fine condition, differing materially, both as to size and quality, from those taken near the Southern Head, and evidently another variety of fish. These herrings were only taken on the spring tides, at the full and change of the moon, as then the fish were swept sufficiently near to the shore to be caught in the weir.

The bottom of this weir is composed of framed timber of large size, sunk in about six feet water at low tide, and ballasted with large stones of a ton or more in weight. Above the strong frame work which forms the bottom of the weir, there is the usual light wicker-work of poles with twigs interlaced, quite sufficient to retain the timid herrings, but altogether unfit to retain other small fish of bolder character. The herrings will not go out of a weir unless the opening is of large size, while all other fish will dash or struggle through any opening sufficient for their passage, even with much squeezing.

Money Cove gains its name from an ancient tradition, that the noted rover, captain Kyd, buried two hogheads of treasure at this unfrequented place; and many credulous persons have expended much time and labour in digging for the pirate's gold, in the ravine, near the roots of two old French willows, said to have been planted there by Kyd himself as a guide to his buried wealth. The ground appears to have been thoroughly turned up along the ravine wherever soil was found; but the much-coveted treasure has not yet been discovered.

Long's Eddy.—Between Money Cove and Long's Eddy, is Indian Beach, so called from its being the usual camping place of the Indians, who resort there during the season for porpoise shooting. There were two canoes here, with four Indians, and the pelts of several porpoises just taken off, were observed hanging up, previously to being boiled for their oil.

Long's Eddy is formed by a long beach and spit of gravel, which stretches to the westward of Northern Head. Within the eddy

there was admirable fishing for small rock cod, with which the water seemed perfectly alive.

There is a clearing at this place, and some land under cultivation, apparently of fair quality. Mr. Cronk has been settled here many years, and his two sons are settled near him. They have three boats, and take 500 quintals of fish annually. They fish at half a mile, to a mile only, from the shore, and follow their business every day in the year that the weather permits, when bait can be procured.

When the writer landed at this place, soon after sunrise, the young Cronks had just taken up the herring nets, which had been set during the night. There were only a few dozens of herrings in the nets, several of which were damaged by the voracious dog-fish, who had apparently carried off many fish entirely. Besides herrings, the nets had caught six pollack, one rock cod, three silver hake (*merlucius albidus*), and one mackerel; none of these were injured by the dog-fish.

Several cod of the largest size were shown by Mr. Cronk, as also many fine pollack recently taken. This situation is apparently a very good one for prosecuting "line-fishing," which might here be carried on to a much greater extent than at present, fish of large size and fine quality being continually found at very little distance from the beach.

Whale Cove.—Between Long's Eddy and this cove are the lofty mural cliffs of the Northern Head, presenting a bold front to the violent gales from northeast which rush with fury down the Bay of Fundy, and offering stern resistance to the mighty waves that dash against them, with sullen and almost ceaseless roar.

The land about Whale Cove is lower than at almost any other part of Grand Manan, and appears to be merely a narrow neck connecting the Swallow's Tail with the Northern Head. There is but little shelter at Whale Cove, for when the wind is off shore, it sweeps with great force across the low land; the hooker was forced twice out of the cove, by heavy gusts, before an anchorage could be gained very close to the shore.

It was stated that the American vessels often ran into this cove in fine evenings, and set their herring nets during the night, being off again at an early hour in the morning.

MEETING OF FISHERMEN.—In proceeding around Grand Manan, the writer saw many intelligent fishermen, who were anxious that some general meeting should take place to discuss matters. It was agreed that, as the most convenient time for such a meeting, it should take place on Saturday evening, (31st August), at the Central School House, near Winchester's. There the writer met about sixty fishermen, and explained to them the imperfections in their cure of herrings, both pickled and smoked; and the improper treatment and bad cure of their dried fish was also pointed out. They were told that they could not expect to obtain remunerating prices, or find steady markets for fish so badly cured as scarcely to be fit for exportation, and which certainly would not be allowed to be exported if a proper system

of inspection were established. The great and wonderful increase in the herring fishery of Scotland, in consequence of the excellent regulations and rigid inspection there enforced, was made known; and the advance in prices which followed the adoption of improved curing after the Dutch mode, was also shown—an advance so great as to enable the Scotch herrings to beat the Dutch herrings out of the continental markets, in spite of a heavy countervailing duty. The fishermen were told, that besides foreign markets which might be opened under a better system of cure and inspection, there was in Canada an extensive demand for well cured fish, as also in the Western States bordering on the great lakes. To this it was replied by the fishermen, that unless the system was general, it was useless for any one person to cure his fish better than his neighbour, as he would obtain no better prices. all the fish from each locality being classed together, and bearing one price, while that price was so low, as to afford no remuneration for additional labour, or greater care in curing.

The writer having collected the numbers and description of the boats and vessels engaged in the fisheries in his progress around the Island, submitted the list so obtained to the assembled fishermen, who made some corrections and additions, when the following return was declared to be as correct as could possibly be obtained:

Return of the numbers of Boats, Vessels and Men, belonging to Grand Manan, engaged in the Fisheries, 31st August 1850.

LOCALITIES.	No. of Boats.	No. of Men in Boats.	No. of Vessels.	Tonnage of Vessels.	No. of Men in Vessels.
Cameron's Cove,	20	60	2	22	8
Doggett's Cove,	6	18	1	11	4
Drake's Cove to Bencraft's Point, ..	20	60	4	20	12
Woodward's Cove,	8	24	4	104	24
Long Island,	2	6	1	12	4
Duck Islands,	4	12	2	16	7
Nantucket Island,	2	6	..	..	..
Kent's Island,	..	..	2	16	8
Grand Harbour,	8	24	4	40	20
Thence to Southern Head,	13	30	5	50	25
Dark Harbour,	3	9	..	..	..
Money Cove,	4	12	..	..	..
Long's Eddy,	3	9	..	..	..
Whale Cove,	4	12	..	..	..
Total,	94	282	24	291	112

RECAPITULATION.

Fishing Boats, 94; Men in same, 282; Fishing Vessels, 24; Men in same, 112.

The fishermen stated that the average length of the fishing boats in use at Grand Manan was 17 feet, and the usual breadth of beam 6 feet; five streaks on each side are of birch, the rest of the planks are of pine. They build few cedar boats, as they are not strong enough for these rocky shores. Although short, these boats are burthensome; but they are not fitted to go out to those banks where the best cod-fishing is found, and cannot with safety venture any very great distance from the Island. On being asked why they did not build boats of greater length and larger size, it was

answered that such boats would not do, where the shores were so rocky and greatly exposed, as the boats had to be hauled up altogether above the tide in stormy weather, or they would quickly be dashed to pieces by the ground-swell and heavy surf.

Some of the excellent Sheffield knives (made by John Algor) which are in common use in the Bay of Chaleur, for splitting and dressing fish, were shown to the meeting, and greatly approved; it was resolved that such knives should be procured for another season, as also a supply of the long-shanked hake-hooks used by the Jersey fishermen, which are very superior, for that fishery.

It was stated, that certain places had been agreed upon by the fishermen as "gurry-grounds," or places where the offal of the fish could be deposited conveniently by fishing vessels, without injury to any description of fishery; but the Americans were not included in this arrangement, and threw over their offal where they pleased. Many of the Grand Manan fishers did the same; it was said that the "gurry-grounds" were less used last season than ever before, and thereby the fisheries of every kind were greatly injured. Besides the damage done to the line-fishing by throwing offal upon the fishing ground, great injury is inflicted by its being drifted into the herring-weirs, which are then said to be "gurried," and will take no fish, for herrings will not approach weirs when in that state. It was greatly desired by the fishermen, that some law should be enacted, by which fishing vessels could be compelled to throw their offal upon the "gurry-ground," under regulations and penalties that could be readily enforced.

It appeared that there were then twenty seven herring-weirs at Grand Manan, and several others in course of erection. The fishermen agreed very well, and were quite unanimous upon all points concerning the fisheries, until the question of herring-weirs came up for discussion; then great differences of opinion were expressed, and an unpleasant altercation took place immediately. Mr. Coddington stated, that one-third of all the fish taken in the weirs were used for manure; this was promptly denied by Mr. Guptill and Mr. Bencraft in the most positive manner. Mr. Bencraft stated, that from the catch of his weirs during the season of 1849, he put up 3000 boxes of smoked herrings, and 50 to 60 barrels pickled herrings; that as many barrels were used for bait; and during the whole season, less than 20 barrels were put upon the land, consisting altogether of small and broken fish. This statement was corroborated by Mr. Dakin, a man of very respectable appearance, who attended Bencraft's weirs; but it was altogether denied by persons present. The assertions deliberately made on one side, were denied in the most unqualified manner on the other, and angry words were freely used. In order to calm the increasing excitement, it was suggested, that as so great a difference of opinion existed, it would be better for both parties to put their several statements in writing. This was agreed to; the storm was allayed; and before the meeting separated, one of the persons present, whose name was not heard, expressed the satisfaction which was felt by the fishermen there assembled, with the conduct of the Government, in sending a person to inquire into

their state and condition, and listen to their representations, as they were thereby convinced that they were not overlooked or altogether forgotten by the Executive.

GENERAL REMARKS.—Owing to the peculiar manner in which the people of Grand Manan conduct their fishing business, it is quite impossible to ascertain precisely what quantity of fish is taken, or what is the total value of the fisheries of the Island. No duties whatever are paid by the inhabitants of Grand Manan; in fact, there is no person there authorized to receive duties. The inhabitants take their badly cured fish to Eastport or Lubec, and there sell them at low prices, taking in return such articles as they need for home consumption. They pay no duty on landing their fish in the United States, as there is a perfectly good understanding with the fishermen of Maine; who, in consideration of being permitted to fish within Treaty limits at Grand Manan, and go on shore to procure bait, wink at the importation of British fish from thence duty free.

Practically, the people of Grand Manan enjoy perfect free trade; they buy what they require in the cheapest markets, and they can build and fit out fishing vessels at three-fourths the cost of American vessels of the same class. Yet, with all these advantages, the Island only owns twenty four vessels, the largest of which is 45 tons, the next 29 tons, and all the rest under 20 tons; while the fishing boats only amount to 94 in all, less than half the number owned in the Parish of Caraquet.

Nothing so greatly surprised the writer at Grand Manan, as the comparatively small number of fishing boats and vessels owned there, and the limited value of the fisheries conducted by the inhabitants. A dealer who has for some years been connected with the business of Grand Manan, estimated the value of the fisheries in 1849, as follows:—

Produce of weirs,	£5,000
Cod, Pollack, Hake, Oil, and Pickled Herrings,	7,000

The estimate of the value of the produce of the weirs is believed to be too large, but the second estimate may be near the mark. The population of the Island is estimated at 2000 souls; and assuming the general value of the fisheries to be as above stated, it is just £6 per annum for each soul on the Island—a very small sum for a community so largely dependent upon the fisheries for subsistence.

The people of Grand Manan are active, industrious, and hard-working, capable of enduring great hardship and fatigue. The young men, from lack of employment at home, engage on board American fishing vessels; they get good wages, because they are active, hardy sailors, excellent fishermen, and admirable pilots for the Bay. The Americans say, "there is no better man on board a fishing vessel than a native of Grand Manan, if you take him away from his own Island." That the people of Grand Manan conduct the admirable fisheries in their vicinity very inefficiently, and with but little profit, is undeniable; and that something may be done for their advancement, by judicious regulations, and a good system of

inspection, is not to be disputed. But even then, the greatest difficulty will be untouched—and this is, the low state of education in the Island. The Schools of Grand Manan are very inefficient; and the people are not sufficiently taught, even in the first rudiments of learning, to compete with their American neighbours, who are more acute and intelligent, simply from being better educated. The lack of learning is one of the greatest evils of Grand Manan; if the people there were better taught, and possessed greater knowledge of the world, they would readily perceive the numerous advantages of their position, and quickly avail themselves of the profits to be derived from it.

Campo Bello.

The inhabitants of this fine Island prosecute the fisheries with great diligence, not only in their own immediate vicinity, but also by sending their vessels to distant places to procure fares. The fisheries close to Campo Bello, are those for cod, pollack, haddock, and hake, by line-fishing, on the "slacks" of the tide just before high and low water, and at other times, in the coves, eddies and passages where the tide does not set too strong. The common herring (*clupea elongata*) of small size for smoking, is taken in standing weirs of brush. A larger description of fish are taken chiefly in nets, called "Quoddy herrings," but which are believed to be the species of shad, designated by DeKay, in his Report on the Fishes of New York, as *alosa mallowaca*. They differ altogether from the common herrings in their habits, are taken almost exclusively in "Quoddy River," (as the channel is called which separates West Isles from Eastport and Campo Bello,) are generally without spawn, and in the autumn are exceedingly fat and fine flavoured.

The writer is under great obligations to Mr. John Alexander, of Welch Pool, for the very efficient assistance rendered by him in collecting information in that locality. The following statement of the fisheries of Campo Bello, compiled with great care, and much labour, by Mr. Alexander and John Farmer, Esquire, a Magistrate, residing at Welch Pool, is presented as furnishing valuable information of much interest:—

Statement of the quantity and value of Fish, taken in one season by the Fishermen of the Island of Campo Bello, in boats, decked vessels, and fish-weirs, owned by them; the estimate being made up from the quantities taken in 1849, corrected by the catch of 1850, so far as it has advanced.

Number and description of Boats.	Number of Men and Boys employed	Quantity and description of Fish.	Average price.	Amount.
50 Boats,	100	5000 qts. Pollack, per quintal, ..	5s 6d.	£1375 0 0
		150 brls. Cod and Haddock, p. brl.	10s.	75 0 0
		500 brls. Herrings, per barrel,	12s 6d.	312 10 0
		100 brls. Oil,	65s.	325 0 0
11 deck'd Vessels,	52	1750 qts. Cod, per quintal,	11s 3d.	984 7 6
400 tons burthen.		340 qts. Pollack, per quintal, ..	5s 6d.	93 10 0
		4600 brls. Herrings, per barrel, ..	12s 6d.	2875 0 0
		480 brls. Mackerel, per barrel, ..	30s.	720 0 0
		20 brls. Oil, per barrel,	65s.	65 0 0
21 Weirs.	100	40,000 boxes smok'd Herrings, p. box	1s 6d.	3000 0 0
Total,				£9,825 7 6

RECAPITULATION.

5,340 quintals Pollack,	..	..	..	£1,468	10	0
1,750 do. Cod,	..	..	..	984	7	6
5,100 barrels Herrings,	..	..	..	3,187	13	0
480 do. Mackerel,	..	..	..	720	0	0
150 do. Haddock and Cod,	..	..	..	75	0	0
120 do. Oil,	..	..	..	390	0	0
40,000 boxes smoked Herrings,	..	..	..	3,000	0	0

Total value, .. £9,825 7 6

Campo Bello, Sept. 6, 1850.

JOHN ALEXANDER.
JOHN FARMER, J. P.

This statement is compiled from actual inquiry among the resident fishermen, and the totals are put down rather below, than above the mark. With this document, Mr. Alexander also furnished, in writing, the following interesting observations, by himself, upon the fisheries of Campo Bello:—

"Our herrings are taken in weirs, and with nets; and pollack, haddock, and hake, with the line. Several of our vessels run down to the Tusquets, the Magdalen Islands, and Newfoundland, in the spring; and to Saint George's Bay, in the winter, for herrings. In the summer, they go to Grand Manan, and to both shores of Nova Scotia, for herring, cod, and mackerel. Improvements may certainly be made in our tackle and gear, but experience will be our best teacher.

"Our herring-season here, is from May until December. Pollack strike in about the first of June, and the fishing for them continues until November. Small cod and haddock are taken, to a limited extent, during the whole year; these are chiefly pickled, and exported in barrels. The herrings taken by our vessels, in the winter and spring, at the Tusquets, the Magdalen Islands, and the Bay of Saint George, as well as those caught, while spawning, at the Southern Head of Grand Manan, are very poor, and any thing but in season. They generally find a ready sale in the markets of the United States; and from my own experience, I should say, that the poor fish bring nearly as good a price as the best. This arises from the difference of climate; the poorer kinds keep better in a warm climate, (as instance the alewives of Saint John), and answer for the food of the slave population.

"I am led to believe, that there is much spawn destroyed at the spawning ground, near the Southern Head of Grand Manan, every season. There are but few spawning herrings taken here, as it is a small sized herring that answers for smoking. There are but few herrings taken here by 'driving' with torches; the fish do not 'play' in shore now, as they did some years ago. There is great diversity of opinion as to the cause, and I feel diffident in giving an opinion. The erratic habits of the herrings are well known—no doubt you have heard many opinions, and you are well able to draw your own conclusions.

"With respect to weirs, and whether they are, or are not, injurious to the herring fishery, I should say, as well from the opinion of others, as my own observation, that they are not; neither are they destructive to the fry of other fish. Of the twenty one weirs upon Campo Bello, there are not more than two that are dry at low-water; the others have from 6 to 12 feet water in them, at low tide—and in many of them, seines 16 fathoms long and 2 fathoms deep, are used to take out the fish. It is impossible for fish to die in any of the deep weirs; and the shoal ones are too carefully attended, for such an accident to happen. I am aware that there are conflicting interests on this question, and very naturally so, as our people, connected with the weirs, are generally men in good circumstances. Our American neighbours have the shores immediately opposite to us, lined with weirs. They neither allow set-nets, or drift-nets, on their shores, as they say nets break up the schools of herring, and destroy them by 'scaling,' (that is, by rubbing off their scales,) when they are in any large body.

"Our weir herrings are principally smoked; as you have seen for yourself, and taken notes of the mode of cure from those competent to give information, I shall not attempt a description. I would remark, that our best curers, in that branch, do not put up herrings in any way inferior to the far-famed 'Digby

chickens.' Our barrelled herrings are put up in the usual style, that is, by 'striking,' and afterwards repacking in barrels, either with Liverpool or Turk's Island salt.

"Small cod, and haddock, are put up in the same manner; the dried fish are first pickled, and then cured on flakes in the sun. I believe many improvements might be made in the curing and packing of our fish, for a different market; and no doubt it would be done, if other markets open to us; but so long as we are confined to the United States for a market, I doubt if it would pay. While the Americans make so little distinction, there would be no object in curing our fish in a better manner. I have seen and eaten the celebrated Lochfine herrings; but I think a well cured 'Quoddy herring' vastly superior.

"There is another very cogent reason why it would not pay to put up herrings in the manner pointed out by the directions of the Scottish Fishery Board, reprinted in this Province—labour is very high, in consequence of our proximity to the United States. At the same time, I am fully aware, that many of our curers do not pay that attention to the fish which they ought to do. But so long as the merchants will buy them, so long will the fish be put up in a careless manner; in fact, the cure lies entirely with the merchant.

"There are but few herrings, and none of the fry of other fish, used as manure on this Island. Drifting with nets is the only illegal mode of fishing practised about here, of which I am aware, and that would be quickly stopped, if persisted in to any extent.

"I have been at some pains to get you a correct estimate of the tonnage, boats, and men, of this Island, employed in the different fisheries, as also their catch, and its actual value, by approximating this with other years. I think you will acknowledge, that if the other fishing districts in the bay show as much as we do in this small Parish, the fisheries are no contemptible part of the resources of this fine Province."

Several of the fishing establishments at Campo Bello were visited by the writer, accompanied by Mr. Alexander. These establishments were found in excellent order, well and conveniently arranged, and in good repair; the proprietors appeared to be men in very comfortable circumstances, who were prosperous in their affairs.

Mr. Joseph Patch, a very intelligent fisherman, thus described the mode of cleaning and curing smoked herrings at Campo Bello. When the herrings are dipped from the weir, they are thrown into a large boat which is closely ceiled. The fish are "scaled" by men getting into the boat and working their legs backward and forward among the fish, without lifting their feet from the ceiling of the boat—sufficient water for the operation is dipped into the boat with the fish. The men continue to work their legs until the scales are off the fish; if worked too much, the fish become "belly-broken" and spoiled. After being thus scaled, the fish are washed in small quantities in the dip-nets, to take off the loose scales and dirt; they are then salted. If large and fat, the quantity of salt used is a bushel and a half to a hoghead of fish; if the herrings are small or poor, a bushel answers. They lay in salt from 18 to 36 hours, according to size—the average time is 24 hours; while in salt, the fish must be kept cool; when sufficiently salted they are strung on sticks, 3 feet 4 inches in length; the smallest fish are strung first, as the largest require more salt. After they are on the sticks, the fish are rinsed quite clean in fresh water; they are then hung up in the bays of the smoke-house. The usual size of smoke-houses, is 24 by 30 feet, the height to the ridge of the roof, 25 feet. Mr. Patch's smoke-house is 30 feet high, there are 8 bays in it, each of the usual width of 3 feet; the

lowermost row of fish hang only five feet from the fire. It was stated by Mr. Patch, that he found by experience, *the cooler the smoke, the better the fish*; he had openings made in the ridge of his smoke-house, as well to let off the dead smoke, as to make the place cooler, and he admitted, that the fish which hung highest were always the best. He uses any kind of wood he can get for making smoke; hard wood is the best, as soft wood fills the fish with white ashes. The large fish require three months smoking; during that time they need great attention, and much good management, especially in rainy or damp weather. When sufficiently cured, the herrings are packed in boxes, of the legal size in Maine—that is 17 inches long, 8½ inches wide, and 6 inches deep, measured on the inside of the box. The best quality of smoked herrings are called “scaled herrings;” these are the largest and best fish. Those called No. 1, are herrings not scaled, and small fish. A “scaled herring” must be seven inches long, fat and good; the “No. 1” must not be less than six inches in length; and large, but poor fish, are also branded of this quality. All other descriptions of fish are considered refuse.

Mr. John Batson's smoke-houses were found the same as those of Mr. Patch, but not so well ventilated. The mode of scaling and curing was found to be the same as above described. At the establishment of Mr. William Flagg, the herrings were observed to be particularly well cured, and of fine colour; this “gilding” as is termed, is given by the use of hard wood only, with which the last smoking is done; it imparts a rich golden colour to the fish, and gives them the well known tinge of the celebrated “Digby chickens.” The difference between the modes of scaling, curing, and smoking, in use at Grand Manan and Campo Bello, are pointed out in another part of this Report, in describing the fisheries of Annapolis Basin; and some of the reasons are given, why the smoked herrings of that locality are so greatly superior to all others.

Mr. Flagg, who is a person of much observation and long experience, stated as his opinion, that it takes herrings three years to come to maturity. He has watched them carefully for years; and seeing them constantly in the weirs, from the size of *britt*, up to the largest herring, he feels quite confident as to the period. He has sometimes, though rarely, taken “sardines” on the shores of Campo Bello; only a few days previously he had caught a single specimen of this rare fish in the Bay of Fundy.

This locality was re-visited in the latter part of October. Mr. Patch then stated, that the herring-season was over; it was considered a failure, as the quantity taken in the weirs, was only about half the usual, or average, catch. The quality of the fish taken was good; not many small fish had been caught—he had only thrown away three barrels, while his whole catch amounted to 3000 boxes; at that time, they were worth fifty cents, or two shillings and six pence currency, per box, in consequence of there being a short supply in the market.

West Isles.

This Parish includes Indian Island, Deer Island, and a great number of small Islands and Islets, in Passamaquoddy Bay, east of the Boundary Line of the United States. The inhabitants are fishermen almost exclusively, somewhat peculiar in their manners and habits, but most industrious, hardy, and exceedingly hospitable people. The best fishing grounds are on the British side of the boundary, which is an imaginary line, passing down the middle of the channel called Quoddy River, and out to sea by the western passage, between Lubec and the western end of Campo Bello.

The fishing boats from Eastport, and other places within the limits of the United States, fish equally, and mingle freely with the British boats on their fishing grounds, near West Isles, where the fish are most numerous; especially near Black Rock, Casco Island, and the big eddy near Indian Island. It is a very gay scene on a fine day, to mingle with some two or three hundred boats fishing in the big eddy, lying so closely together as to leave little more than space between to pull up the fish. The writer joined this animated throng more than once, in August and September, when pollack were taken of large size, and in great abundance. The fishing began either just before high water, or just before low water, on what are called "the slacks" of the tide. The boats then lay at anchor; as few anchors as possible are dropt to avoid fouling the fishing lines, the boats making fast to each other, stem and stern. Thus they lie until the tide begins to run too strong, when the anchors are lifted, and the boats then swing about, almost in a body, with the different sets of current, through the passages between the Islands, fishing "on the drift," as it is termed—the fish below appearing to move about in the same manner as the boats above. This continues until the tide begins to set too strong, when the boats proceed to the coves and eddies near Campo Bello, or some of the small Islands or rocky islets, where they drop anchor and fish out the rest of the tide.

While the boats are congregated together fishing in close column, they appear to attract the fish by the number of baits which are let down at the same time. There are generally three men in each boat; all is life, bustle, and animation. The line is scarcely down, when the fisherman commences drawing up a fish; the depth varies from 14 to 28 fathoms, and very often the hook is not half way down, when it is seized by a fish. While fish are being thus rapidly drawn into the boats, jokes and gibes are freely bandied; any lively story, or piece of stinging wit, passes quickly from boat to boat, and laughter, cheers, and almost invariable good temper, prevail among all, whether British or Americans. If one boat falls short of bait, it is supplied from another which is better provided; and civilities sometimes extend to an interchange of hooks, snoods, and fishing leads. When the British boats go over to Eastport, as they generally do, to dispose of their fish, no questions are asked as to the character of the boat. If the American boats enjoy the privilege of fishing on the best grounds within the limits of New Brunswick, those of West Isles can sell their fish

at Eastport without payment of duty or charges. The good feeling which springs from this state of things, causes the fishery business to go on smoothly and quietly along the frontier, where, under other circumstances, there would almost to a certainty, be constant quarrels and collisions.

To an amateur, the pollack fishing in the Big Eddy, with the crowd of boats to be found there in the season, is extremely amusing and highly exciting; but when the fish bite quickly, and are taken of large size in pairs, as frequently happens, the work soon becomes exceedingly severe. With the pollack, small cod and haddock are also taken, with now and then a dog-fish, and sometimes a sculpin or a skate of large size; the variety of fish tends to keep up the excitement, and lends animation to the fishery.

In a Lecture on the Fisheries delivered a few years since by Mr. Lorenzo Sabine, of Eastport, who had paid great attention to the subject, the following description was given of the fishermen of West Isles:—

"In closing my remarks on the fisheries, I feel bound to give you some idea of a Bay of Fundy, or as we call him, a 'boat-fisherman.' In commencing his picture, I cannot say that he is either so moral, so intelligent, or so industrious, as he might be; but yet, I can say, that he is an improved, and an improving man. Bred to the use of boats from his earliest youth, he displays rare skill in their management, and great boldness in his adventures. He will cross from island to island, and go from passage to passage, through frightful whirls of a tide which ordinarily rises and falls twenty five feet, in alarming proximity to rocks and bars, and in the stormiest weather. As a whole, he is a singular, and withal an interesting being; and none who have once learned his peculiarities, will ever forget him. If he be naturally shrewd, (most of them are,) and past the middle age, occasional intercourse with him will amuse, if not instruct, the wisest and most polished.

"He is neither a landsman, nor a seaman, nor soldier, nor marine; yet, ten to one, if in the course of conversation with him, you do not find that he has figured in them all. He is neither merchant nor mechanic, but no man better understands buying and selling, or mending, altering, and making. He is no doctor, but he will out-talk a medical graduate, and will shame him in a knowledge of 'livers,' 'back bones,' the means to cure 'rhumatiz,' and the like. He is no astronomer, and holds nautical instruments in high derision; but he knows all about the moon, and let him but hear the moaning of the sea—listen to the scream of the gull—or the sound of the surf—and watch the cat's paw, or 'glim,' in the sky—and he will reveal secrets, and disclose truths, which put him in high conceit with his own wisdom, and shame the landsman.

"And then, seat yourself beside him, and hear him comment upon his dream book. Listen as he tells you of the feats of the witch, that lives in his particular harbour—or of the accidents that have happened from doing things on Friday—or what have followed the signs and omens that he believes in. Then, there are his tales of wonderful escapes—his 'fish stories,' and his sage conclusions in politics—his notions of religion, or his profound speculations on the causes of the high price of bread-stuffs, or of the means employed to keep down the price of fish.

"But of his dress, and his professional gear—who shall do justice to them?

"The oiled garments which cover his upper and nether man, he calls his 'ile-suite.' The queer shaped thing which he wears upon his crown, he names a 'sou'-wester.' An article, neither mittens nor gloves, which protect his hands, he calls 'nippers.' The matted and tangled mass which grows upon his head, and the long red hair, which under his chin answers the purpose of a neckcloth, and in front of his ears, renders him impervious to a dun, he calls 'brush.' His boots, he says, are 'stampers;' and lest he should lose the moveables he carries in his pockets, he has them fastened to his person by a string, which he calls a 'lanyard.' He uses one knife which he calls 'cut-throat,' and another that is

a 'splitter'; his apron is a 'barvel'—the box, or compartment into which he throws his fish as he catches them, is a 'kid.' When he means to go for herring, he says he is 'agoing-a-driving'—the state of the moon favourable for this purpose, are 'darks'—the bent-up iron hoops, which he uses to carry his burning torch, bears the name of 'dragon'—the small net, with an iron bow and wooden handle, which he uses to select the fish that his torch attracts, is a 'dip-net.' To another and a larger net, with leads on its bottom edge to sink it in the water, and with corks fastened along its upper edge at regular intervals, to buoy it up, and preserve it in nearly a perpendicular direction, that the herrings may strike it and become entangled in its meshes—to this he gives a name indicative of its use—he calls it a 'set-net.'

"Nor ends his dialect here. Chebacco boats and small schooners are known to him as 'pinkies,' 'pogies,' and 'jiggers.' All vessels he calls 'craft,' and the only distinction he will condescend to make, is to append the adjective; such as large, small, nice, poor 'craft.' He knows nothing about the hours of day or night; every thing with him goes by tides. Thus, if you ask him, about what time he was married, he will perhaps say—"tother night, about half-flood!"—or what time he saw a certain man, his reply will be, 'this morning about low water slack,'—or, 'on young flood,'—or, 'just as the ebb tide made.'

"If he has fish to sell, and you ask him their size, he will tell you they are 'two-quintal fish,' by which he means, that fifty of them will weigh 112 lbs. His boat anchor he calls a 'killock,' and the rope attached to it he styles a 'rode.' If he speaks of the length of line required on different fishing grounds, he will say that on the Banks and in the Bay of Fundy, 'two shotts' are used, and at the Labrador but 'half a shott,' and by a 'shott' he means a line of thirty fathoms.

"Lest it should be thought I have made too much of this original, I beg to remark, that should any who doubt his existence ever shake me by the hand at my own home, I promise to show them the very man; and I have bestowed the more attention upon him, because many of his qualities of character and forms of speech are common to all fishermen, and because the knives and other gear are in general use. Should any of you go with me to the house of this singular being, he will probably ask us to stay to dinner—let me then give you the form of invitation, that you may remember it.

"He will probably have provided something extra; it will consist of his favourite dishes, to-wit—the three p's,—a pot-pie of sea-fowl, pudding, and pancakes. The proper moment arrived, he will say—"come skippers, down with your killocks and get some grub; don't know as you'll like it, but our woman has got us some fresh smothers, some duff, and joe-foggies."

It may be remarked, that since Mr. Sabine gave this quaint description of the "boat-fisherman," which is copied from his own notes, the labours of the Sons of Temperance have been very successful, and have tended greatly to improve his condition in every way.

Deer Island.

This Island is broken and rocky, the central portion especially, and there is comparatively very little land fit for farming purposes; but such as is fit, is of good quality. Its harbours are good, and there are numerous coves which afford excellent shelter for boats, with deep water close to their shores. There is a very considerable number of inhabitants on Deer Island, who are all more or less engaged in the fisheries, of which that for pollack, holds at present the first place, in this locality; the herring fishery is considered next in value, after which come the fisheries for cod, hake and haddock, with mackerel fishing when it is to be had in the neighbourhood.

The boats generally in use at Deer Island are from 12 to 18 feet in length; the 12 foot boat has one man, the 18 foot boat usually three men. These boats have sharp, or pink sterns, with

one mast shipped very close to the stem, and a mainsail very broad at the foot, stretched well out with a light boom, and running up to a point at the top. These boats sail uncommonly well, and lay very close to the wind; they are exceedingly safe in the hands of the fishermen, who certainly manage them most admirably. The sail is usually tanned with hemlock bark, which imparts to it a reddish brown colour; as the boats are generally painted white, they have a very smart and somewhat singular appearance, as they dart through the narrow passages between the numerous small islands and reefs, or sweep down in little fleets of ten or twenty boats to the usual fishing grounds.

The first place visited at Deer Island was Chocolate Cove, at which locality James M'Neal, Esq. J. P., and his son, both intelligent persons, furnished the following information:—They said that the most profitable fishing there, was for pollack and herring; the pollack average fifty to the quintal. The Deer Island fishers have some difficulty in procuring bait; they are obliged to go over to the American side, and buy it there from the weir owners, who charge two pollack, green or dry, for a bucket full of small herrings. They said that herrings would not "drive" as formerly; that the Indians by continually firing at the porpoises, have destroyed or driven them off, and the herrings not being chased by porpoises into eddies near the shore, but keeping out in mid-channel, cannot now be "driven" with the torch as in the olden time.

The mode of curing pollack and herrings on this Island, was stated to be as follows:—After pollack are split, they are washed, and lightly salted in tubs and hogsheads. During the summer, they remain in salt three or four days; in the autumn four or five days. They are then washed in their pickle, and piled in *kim's* to drain for 24 hours, after which they are put upon the flakes. At night, they are piled on the flakes, in heaps called "faggots;" in fine weather, they cure in a week; after this, they are spread out again during a fine day, to dry the sweat. In the autumn, the fish are not sweated.

Herrings, after being gibbed, are washed in a tub, and then salted; they lay in salt four days. If the pickle sours, the fish are spoiled, as they taint at once. When taken out of pickle, they are packed in barrels, on their backs. Messrs. M'Neal said, that herrings had too little pains bestowed upon them, and very many were sent away to the country quite spoiled. From want of means to buy a stock of salt, the fishermen used it too sparingly, and hence, too often, the spoiling of the fish. The herrings here alluded to, are those called "Quoddy River Herrings;" they are taken from August until late in the autumn, by drifting at night, in the same manner as for shad; those taken latest in the season are best and fattest, but it is then very cold work sitting in an open boat all night, and the fishermen suffer severely.

The smaller herrings, such as are generally cured by smoking, were formerly very abundant on the shores of Deer Island. The fishermen of Campo Bello said, that the people of Deer Island had broken up the shulls, and driven the fish away, by the excessive use of small meshed nets. On the American side of Quoddy River, the use of such nets is altogether prohibited.

At Leonard's Cove, the fishing establishments of Mr. George Leonard was visited. Mr. Leonard stated, that he had lived at this place thirty years. He fishes principally for pollack; but in the autumn he takes small cod. He built a brush weir the past spring, which cost £75; up to the 9th September, it had only caught 75 boxes of herring; but it had been exceedingly useful to the line-fishers in his neighbourhood, by furnishing them with bait. At Deer Island, there are only four weirs altogether; in Leonard's weir there is four feet water, at low tide. It being near low water, the weir was visited and examined; in it were found a few very fine "Quoddy River Herrings," about a bushel of small cod, one lobster, eight mackerel, and some small herrings, only fit for bait. Mr. Leonard quite agreed with Mr. Flagg, of Campo Bello, that herrings attain their full growth in three years.

The fishing establishment of Mr. James Neill, near the northern end of the Island, was also visited. Mr. Neill purchases many fish from the fishermen, which he cures himself; his dealings in fish are somewhat expensive. In his vicinity, hake are abundant, and also haddock. At the time this establishment was visited, (9th September), the oil made from the liver of a hake, was more valuable than the hake itself. The hake here were better cleaned than at Grand Manan, but there was the same desire to oversalt, and make the fish weigh as heavy as possible.

Mr. Neill stated, that the hake he cured went sometimes to Cuba, but generally to the Foreign West India Islands; the cod to Boston and New York, for domestic consumption there; the haddock were shipped to Cuba; and the pollack were sold in Maine, chiefly for consumption in the forest by the lumbermen. At this establishment, 262lbs. of green fish were weighed as a quintal.

The practice of taking herrings on the spawning ground, at the Southern Head of Grand Manan, was reprobated by Mr. Neill, as highly detrimental to the herring fishery generally; the quality of the herring caught there, and the careless manner in which they were cured from want of time, were also stated to be highly injurious to the market, as depreciating the value of herrings which are really good and well cured. An inspection of herrings, Mr. Neill said, was greatly required, in order to raise their character in distant markets—the herrings taken on the "rippings," about six miles from Grand Manan, were said to be good fish, and needed only proper care and inspection to be highly prized abroad.

A visit was paid at Indian Island to Mr. James Chaffey, an aged man, of much intelligence, who has long resided there. Mr. Chaffey said, that herrings were not so abundant now, as twenty years since; of late years the quantity has fallen off greatly, and they are now much smaller. He did not consider the weirs injurious to the herring fishery, but thought the mischief was done at Grand Manan.

When Mr. Chaffey first went to Indian Island, *brill* were very abundant; they averaged about three inches in length. These little fish were exceedingly valuable as food for larger fish, but from some unaccountable cause, they have altogether disappeared, not a single specimen having been seen for the last ten years.

With some trouble the number of fishing boats and vessels, at the following localities in West Isles, was procured, viz:—Clam Cove, Cummin's Cove, Mill Creek, Chocolate Cove, Leonard's Cove, Lord's Cove, Bean's Island, Mowat's Harbour, Adam's Island, Parker's Island, Minister's Island, Hardwood Island, Fish Island, North West Harbour, Northern Cove, and Indian Island. The whole number of boats was ascertained to be 99; and of decked vessels, 27, of 577 tons register.

The Coast from L'Etite Passage to Point Lepreau.

The fishermen on this coast pay more attention to farming than those of West Isles; the character of the fish are the same, except that the hake are in greater abundance near the shore, owing to the bottom being soft.

Captain Jedediah Califf has lived at L'Etang Island, entrance of L'Etang Harbour, for thirty years. He stated, that hake is the principal fishery near that place; it begins in July, and continues until November. The fishing for cod is chiefly in the spring and autumn; Pollack fishing is had during the summer, as the fish strike in—they run about 35 to the quintal. Herrings are taken during nearly the whole year, more or less being caught every month; they do not catch any of the large fish, known as "Quoddy River Herrings," but they take the "blue-blacks," or "English Herrings," as the fishermen term them—these are the fish designated by naturalists in America, *clupea elongata*, or, the common herring. There are four brush weirs at L'Etang, intended to take small herrings for smoking. The catch has greatly fallen off latterly, and this, Captain Califf attributed to the enormous destruction of spawning herrings, and their spawn, at Grand Manan; he has been there during the fishing season, and seen their herring-spawn, after being shaken from the nets, shovelled out of the boats like snow!

In the dead of winter, herrings frequently enter L'Etang Harbour in large quantities; they are then taken in "set-nets" of 30 fathoms in length, and 150 meshes deep—the size of the mesh, 2 inches.

The boats in use along the coast, are from 16 to 22 feet in length, chiefly built of pine; some fishermen put in a few streaks of birch; the stem, stern-post, and keel, are always of birch.

When the fishermen need bait during the summer, they "drive" the herrings with torches, and in that way procure the quantity they require. It appeared that herrings would still "drive" in this locality, probably from the schulls not being broken up, as elsewhere, by numerous brush wiers.

Between L'Etite Passage and Point Lepreau, the number of fishing boats was found to be 90 in all, averaging three men each. These boats chiefly belong to Back Bay, L'Etang, Beaver Harbour, Seely's Cove, Crow Harbour, Deadman's Harbour, Bliss' Island, and Mace's Bay, where the fishermen are principally settled, and cultivate the soil to some extent.

The Wolves.

This cluster of Islands lies at some distance from the mainland; on the largest of the group there is one family, that of James Paul, who constitute the only inhabitants. The fishing around these Islands is chiefly in the spring, for cod, which remain about a month; and in the autumn for hake, during a short time. The best fishing for cod is on a bank, about nine miles S.S.E. from the Wolves, upon which, in May, some fine fish may be taken. There is also herring fishing occasionally; and fishermen from St. John encamp on these Islands, when fish are to be had in their vicinity. The Wolves are not greatly esteemed by fishermen as a fishing station.

During the past season, several hundred barrels of mackerel were caught (chiefly by fishermen from Eastport) between the Wolves and the entrance to L'Etang; the British fishermen were not equipped for this fishing, or else they did not understand how to pursue it, for they caught a very few fish on days when American vessels made a capital catch.

Value of the Fisheries at West Isles.

Since this Report was written, a return has been received from Mr. John Alexander, of Campo Bello, of the value of the fish taken in one season, by the fishermen of West Isles, which is here given. It will be observed, that Mr. Alexander states the number of open boats at 200, which is believed to be more than strictly belong to the Parish of West Isles; the return probably includes boats belonging to the neighbouring Parishes of Saint George and Pennfield, on the mainland, which fish on the same grounds—in such case, it may be deemed quite correct:—

Return of the quantity and value of Fish taken in one season by the Fishermen of West Isles, in boats, decked vessels, and fish-weirs owned by them.

Boats, Vessels and Fish-weirs.	No of Men.	Quantities and description of Fish.	Average price.	Amount.
200 open boats.	500	20,000 qts. pollack and hake, p qt., 800 brls cod and haddock, p brl., 2,000 brls. herrings, per brl., 400 brls. oil, per brl.,	5s. 6d. 10s. 12s. 6d. 65s.	£5,500 0 0 400 0 0 1,250 0 0 1,300 0 0
27 decked vessels, 577 tons register.	156	3,750 qts. cod, per qt., 800 qts. pollack, per qt., 1,500 brls. herrings, per brl. 50 brls. oil, per brl.,	11s. 3d. 5s. 6d. 12s. 6d. 65s.	2,109 7 6 220 0 0 937 10 0 162 10 0
7 weirs.	35	5,000 bxs smoked herrings, p bx.	1s. 6d.	375 0 0
Total value,				£12,254 7 6

RECAPITULATION.

20,800 quintals Pollack and Hake,		£5,720 0 0
3,750 quintals Cod,		2,109 7 6
3,500 barrels Herrings,		2,187 10 0
800 barrels Cod and Haddock,		400 0 0
450 barrels Oil,		1,462 10 0
5,000 boxes Smoked Herrings,		375 0 0
		£12,254 7 6

Campo Bello, February, 1851.

J. ALEXANDER.

With reference to this return, it may be remarked, that the decked vessels of West Isles, like those of Campo Bello, follow the fisheries at Grand Manan, on the shores of Nova Scotia, and elsewhere, during the season, with much diligence and perseverance, and as appears by this return, with very considerable success.

Eastport.

As the fishermen of West Isles, Campo Bello, and Grand Manan, find their chief market at this border town of the United States, the fishing establishments there were visited and examined.

These establishments are all close to the water side, with convenient wharves, landing places, cranes for hoisting, and easy stairs; the wharf room in each case is ample, and generally well planked over. The buildings consist of large warehouses for salt and materials; buildings for storing and packing pickled fish, and stores for dry fish; and a large shop for cotton and woolen goods, groceries, and a full supply of every description of article usually required by fishermen or their families—beyond the buildings on the landward side, is usually a field covered with fish-flakes, for the cure of dry fish.

During the past year, the decennial Census of the United States was taken, and the writer was kindly permitted by Mr. Charles Loring, one of the Assistant Marshals of Maine, to extract from the Returns compiled by him, the following official estimate of the products of the fisheries at Eastport, as returned by him to the Government of the United States:—

In proportion to the number of men employed, this return of products is very great; but it must be borne in mind, that the fish are chiefly caught by British fishermen, and carried over to Eastport, either quite fresh, or only pickle-salted.

The establishment of Upham J. Treat, mentioned in the foregoing return, is on Allen's Island, between Eastport and the neighbouring town of Lubec. At this place, there is a very large weir for taking herrings, in which considerable numbers are caught. The arrangements for putting up salmon and lobsters in tin cases hermetically sealed, are very excellent, besides which fresh vegetables, (green peas and Indian corn) with poultry, and several descriptions of meat, are also put up, in similar manner.

The fresh salmon put up here, are brought in ice from the Harbour of Saint John. The lobsters are brought in smacks, with wells, from the westward; when too many arrive at one time, they are placed in the tide, in a sort of crib, or pound, enclosed with high palings, and there fed until they can be boiled and packed. The first supply of lobsters in the spring comes from the vicinity of Portland; as the season advances, they are taken further east; in August, the supply came from East Machias. The price paid at this establishment for lobsters, is five dollars per hundred, equal to three pence currency each lobster. When the place was visited, on the 20th August, no less than 1200 lobsters were boiled and packed on that day. It was observed, that a great proportion of the lobsters were males, many of them of exceedingly large size; these were boiled 35 minutes. The smaller lobsters (females) were only boiled 27 minutes; these were kept apart from the others, and put up separately, as a better article, the meat being finer, and the flavour much superior.

The white meat only of the lobster—that which is contained in the claws and tail part—is picked out in a very expeditious manner, and placed in the tin cases; all the rest of the fish is thrown away, or rather, is carted away to the compost heap.

The smoked fish here, appeared of small size, and were not well cured. They had not a good colour, and hung far too near the fire to be of good flavour. The smoke houses were altogether too low, and too warm for curing fish of good quality; in this respect, the Americans seemed no better than their neighbours on the other side the boundary.

In order to procure exact information, the fish stores of Mr. John French, at Eastport, were visited on the 22d August, and Mr. French himself gave every facility, for which the writer's best acknowledgments are due.

Mr. French stated, that he had been twenty four years engaged in the fish business at Eastport. He was then taking in dried cod at \$2.50 per quintal, and pollack, hake, and haddock at \$1.00 per quintal. Of green fish, he weighed 262lbs. as a quintal, at the same prices, but the pay was not so good—that is—the pay was all in goods, and not partly in cash, as for dry fish. This weight, Mr. French admitted, would make more than a quintal of dry fish, especially at that season of the year. Pickled cod were purchased at \$1.75 for 200lbs.; for the scale fish, the price was \$1.00 for

200lbs., payable, in both cases, in goods. The prices of some of the goods delivered in payment were as follows:—Molasses, 35 cents per gallon; flour, \$6.25 per barrel; tobacco, 25 cents per pound; pilot bread, 5 cents per pound; navy bread, 4 cents per pound; pork, 10 cents per pound. These articles were all of good quality, the pilot and navy bread especially.

The Grand Manan herrings are bought in bulk by Mr. French, at \$1.50 for 200lbs.; with the price of the barrel, and expense of packing, they cost at Eastport \$2.50 per barrel, when ready for shipment, which is just the price they sell for at Boston—the profit is made on the goods that are given in payment. It was noticed here, that the chines of the herring barrels were twice as deep as those of English barrels; they hold can-hooks better, and are considered superior in other respects.

Fish oil was purchased by Mr. French at \$16 per barrel, a higher price than usual, the article being scarce and in demand. In the early part of the season, it takes the livers of 100 quintals of pollack to make a barrel of oil; but as the season advances, the fish become in better condition, and the livers of 25 quintals will make a barrel.

Porpoise oil was bought at \$1 per gallon. An Indian who was delivering some of this oil to Mr. French, stated that ten gallons of oil were usually obtained from six porpoises.

It was said by Mr. French, that when he first commenced business at Eastport, the pollack were taken of very large size; they have since constantly diminished, and are still diminishing. The small pollack—which the fishermen call “harbour pollack”—when caught formerly, were thrown back into the sea, but now they are split and dried with the others. The decrease in the size of the pollack was supposed to arise from the great destruction of small herrings in the weirs, thus diminishing the quantity of food for the pollack.

Prior to 1839, there was excellent mackerel fishing in the vicinity of Grand Manan; these fish then entered the Bay of Fundy in immense schulls, and the American fishers took them in large quantities. But since 1839, the mackerel seem to have shifted their ground, as no large body of these fish has been seen in the Bay since that period. Mr. French stated, that he had seen large mackerel, as fat as any he ever saw, which were taken on cod-hooks, in deep water near Grand Manan, during the winter season; and he adduced this as a proof, that mackerel do not leave the coast, but merely retire into deep water during the winter.

Lubec.

At this town, which is about three miles from Eastport, and very close to Campo Bello, great quantities of smoked herrings are put up annually; at one period, no less than 60,000 boxes were cured every season, but the quantity has considerably diminished of late years. There are numerous smoke houses along the water side, most of which are open to the objection of heating, rather than coolly smoking the fish, as ought to be done to ensure fine colour and good flavour, as well as freedom from taint or rancidity.

In the passage between Campo Bello and West Quoddy, just beyond Lubec, there are extensive weirs on both sides, out to the very edge of the ship channel; in some places the weirs approach each other so closely, as to leave but narrow space between. The channel being crooked as well as narrow, it is difficult for a vessel to get through safely after nightfall, especially if the night be at all dark or foggy. The steamer "Commodore," having on board a party of delegates to the Railroad Convention at Portland, in July last, attempted to pass out to sea by this passage during a foggy night, but was fairly caught in one of the weirs, and was compelled to remain there until daylight. The misadventure occasioned some witty, and piquant remarks, at the Convention, in connection with the discussion of steam navigation across the Bay of Fundy, in connection with a Railway through the western part of Nova Scotia.

A legal gentleman at Eastport was asked, if the laws of Maine permitted the erection of weirs, in this passage, to such an inconvenient extent; it was stated in reply, that the law neither sanctioned their construction, neither did it forbid their being placed there. The weirs had been standing in West Quoddy passage, this gentleman said, for several years without let or hindrance; and as the law was silent on the subject, the proprietors conceived they had obtained what they called "negative approval."

In the channel between Lubec and Eastport, very large and fine scallops were formerly found, and in all probability they may be found there still. Major General H. A. S. Dearborn, U.S.A., now Mayor of Roxbury, in a letter to the writer, says:—

"I was at Eastport in 1849, and obtained very large and excellent scallops—*pecten*—*Lot* differing from *pecten concentricus*, on the coast of Massachusetts, being four times as large; many of them were six inches in diameter. I used a dredge-net, and procured them, between Eastport and the western end of Campo Bello, in mid-channel, where the water was six to nine fathoms in depth."

The dredge-net might again be employed in this, as well as other localities in the Bay of Fundy, with advantage; it would perhaps bring to light some varieties of fish not generally known at present, especially of flat-fish, resembling plaice and sole, which are believed to exist in the Bay. With regard to scallops, it may be stated, that they are frequently taken, in considerable quantities, and of the large size mentioned by General Dearborn, at Mace's Bay, northwest of Point Lepreau, where extensive beds of this peculiar shell-fish are known to exist. Of late, the edible portion of these large scallops has been put up by a noted preserving establishment at New York, and sold in glass bottles at a high price, as an unusual luxury. They are much esteemed, and sell readily; so this branch of business is open to the people of New Brunswick, who have a large supply of the scallop, easily accessible.

The Fisheries of the River Saint Croix.

As several complaints were made to the writer of the state of the fisheries in the tide-way of the Saint Croix, near St. Stephen and Mill Town, these places were visited in September last.

The River St. Croix being the boundary between the British Colonies and the United States, the jurisdiction of New Bruns-

wick only extends to the centre of the channel of the river ; the remaining portion is under the control of the State of Maine. The fisheries on the American side of the river, are subject to the supervision of the Fishery Committee of the town of Calais, whose duties are nearly similar to those of the Overseers of the Fisheries in New Brunswick.

The lower dam on the St. Croix is in the tide-way, between St. Stephen and Mill Town, at a place formerly called the Middle Landing ; it is a high solid dam from bank to bank ; and upon it there are a number of mills—it is called the Union Mill Dam. Above the back-water occasioned by the Union Dam, are the Salmon Falls ; the St. Croix is here very narrow, and there is considerable fall over a rugged ledge of rocks. Piers for a railway bridge were being placed in the river at these falls, upon which, it is said, a factory is to be erected. Next above the Salmon Falls, are the extensive mills and dams at Mill Town, almost filling the river for some distance. At the American town of Baring, five miles above St. Stephen, there is a third dam on the river, extending from side to side. There is a square opening in this dam, intended for sluicing logs when the river is low—this is termed a "fish-way,"—for which, however, it is said not to answer. About six miles above Baring, at Sprague's Falls, there is a solid dam across the river, called the "driving dam;" in that there is no provision whatever for the passage of fish.

On examining the Union Mill Dam, it was found that there was no fish-way. There is a sort of "roll" on the top of the dam, over which the waste water passes, and it was said that fish *could* get over at high-water ; if so, it is most probable that salmon only could effect the passage—if other fish do get over, it must be with great difficulty and very rarely.

At Mill Town, owing to the peculiar formation of the ledges on which the various dams are placed, there is a narrow channel, up which fish may pass, if it is kept free from obstructions. This channel was found closely jammed with logs, and the water being low, no fish, even of the smallest size, could pass. It was stated by the millmen at this place, that when the water is high in the spring, at the usual time for the passage of fish, the fish-way is constantly filled with edgings, rinds, and rubbish, from the mills above, so that it rarely happens a fish can get through.

Mr. Edward Sydney Dyer, who resides at Calais, stated that his father's residence was near the Salmon Falls ; he was born there, and resided beside those falls until after he attained to manhood. About thirty years since, salmon, shad, and gaspereau, were exceedingly abundant in the St. Croix ; the average catch at the Salmon Falls was 200 salmon per day, for three months in each season. The gaspereau came in such quantities, that it was supposed they never could be destroyed ; and the numbers of shad were almost incredible.

Up to 1825, the dams on the river were provided with fishways, and while these were maintained the fisheries of the river did not diminish ; but in that year the Union Dam, (the lowermost), was built without a fish-way, and the fisheries instantly fell off, con-

tinuing to diminish ever since, and now they can scarcely be said to exist. In 1846, the Union Dam was swept away by a great flood, and fish got up the river; for two years after there was very good fishing, but the rebuilding of the dam again put a stop to it.

Ninian Lyndsay, Esquire, of Saint Stephen, one of the Overseers of the Fishery for that Parish; described the quantities of fish which formerly ascended the Saint Croix, as something almost miraculous. The fishing in the river was good until a short time after the Union Dam was built; since which it has fallen off amazingly. Gaspereau have become very scarce indeed, although formerly thousands of barrels were taken in the river. No shad are now caught above the tide, and but few below. Before 1825, shad were taken at the Salmon Falls, by a large dip-net, attached to a long swinging pole, like a well pole. The net was heavily leaded to make it sink in the swift water; it was then swung round, and it was not at all uncommon to take two or three barrels of shad at a single dip of the net. Mr. Lyndsay mentioned, that some years since he knew a man who stood on a jam of logs, below the Salmon Falls, with a dip-net, and who, in a single day, caught 118 salmon! The whole catch of salmon, in the St. Croix, during the past season, according to Mr. Lyndsay's estimate, would not exceed 200 fish, and a proportion of these were salmon out of season, lingering below the Union Dam, and endeavouring to ascend.

In Mr. Lyndsay's opinion, sufficient fish-ways might be placed in each of the dams on this river, without injury to the mills or water-power, if the mill proprietors could be compelled to construct such fish-ways, and keep them free from obstructions. This, he said, was admitted by the mill owners; but the law was not sufficiently stringent in its provisions to enable the Overseers to compel the opening of the fish-ways, for which more summary and efficient powers were required. It was also stated by Mr. Lyndsay, that the Fishery Committee of Calais, had expressed their readiness and anxiety to co-operate with the Overseers of Fisheries in Saint Stephen, in measures for opening the river, and preserving its valuable fisheries.

An interview was also had at St. Stephen with William Porter, Esquire, another Overseer of the Fishery there, whose statements were similar to those of Mr. Lyndsay. Subsequently, those gentlemen addressed a letter to the writer, which is here given in full:—

"Saint Stephen, 6th December, 1850.

"SIR,—We have received your circular letter of 12th August, relative to the fisheries, and in reply, beg to state, that from the first settlement of this country up to the year 1825, there was annually a great abundance of salmon, shad and gaspereau in the Saint Croix; in fact, so plentiful were the latter, that vessels from Rhode Island, of 100 to 150 tons burthen, followed the fishing business on this river, and were never known to leave without full cargoes. They had establishments on the American side of the river, where they salted the gaspereau in vats, and repacked them in barrels, for the West India market. There were also several seines belonging to the inhabitants, which were worked in the tideway of the river, the owners of which put up, annually, from 1500 to 2500 barrels of gaspereau for exportation, besides a sufficiency for country use.

"At the same time, shad were taken in great quantities; very frequently, more than one hundred would be caught in a small net, in a single night. These fish were also caught in large numbers at the salmon falls, by dip nets, where also salmon were taken in abundance.

"We have known a lad, fifteen years of age, take 500 salmon during one season; and we have known one man with a dip-net, at the salmon falls, take 90 to 100 salmon, two days in succession. Up to 1826, these salmon were sold at four to five cents per pound; their average weight was about ten pounds each. After the Union mill-dam was built in 1825, the fisheries fell off very soon; and continued to diminish until 1846, when that dam was partly swept away. Then the salmon again got up the river, in considerable numbers, so that in 1848, to the joy and surprise of the inhabitants, they were quite numerous; but the rebuilding of the dam once more stopped them, and they have since diminished both in size and numbers. Very few indeed now get up the river, and we therefore advise, that an Act be passed at the next Session of the Legislature, giving the power of getting at offenders in a more summary manner, as it never will do to lose so great a source of wealth, when it can be so readily preserved.

"The Grant from the Crown, of the premises on which the Union Dam is built, is subject to conditions, with reference to the passage of fish, which have not been complied with, and it has thereby become forfeited. It is to be hoped, that after your Report is presented, the Attorney General will take steps to enforce the conditions of the Grant, or else to re-vest the premises in the Crown.

Respectfully yours, &c.

WM. PORTER,
N. LYNDSEY.

To M. H. Perley, Esquire.

The premises on which the Union Dam stands were granted to Abner Hill, of Saint Stephen, by letters patent, dated 10th December, 1824, which contains very special provisions. There is a recital, that Abner Hill the grantee, had presented a petition, setting forth that there is a good site for erecting Mills in the river Saint Croix, opposite the dwelling house of Robert Hitchings, at a place commonly called the Middle Landing, which is nearly midway between the Saltwater Falls, so called, and the falls below the Mills at Milltown, called the Fishing Falls, and praying a grant of the premises; that the petition had been referred to the Justices of the Peace in the County of Charlotte, to report if there was any objection to its prayer; and that the Justices, in Sessions, had recommended that it should be complied with. The premises described in Mr. Hill's petition are then granted to him under several restrictions and conditions; the undisturbed right of fishing in the river is expressly reserved to His Majesty, and all his subjects. Among other conditions of the grant are the following:—

"Provided also, and this Grant is upon condition, that the said Abner Hill, his heirs and assigns, shall and will cause a good and sufficient fish-way to be made in each and every mill-dam, which may be erected and constructed, in the said river, on the said premises; and that the same fish-way, or fish-ways, shall always be maintained and kept in such a state of reparation, so that the passage of the fish to and from the sea may not be impeded by such dam or dams; and also upon this further condition, that a free passage shall always be left for the floating down of ton timber, logs, and other lumber, from the upper parts of the said river, by all and every of our subjects. And it is our will and pleasure, and we do hereby expressly ordain and declare, that in case the said Abner Hill, his heirs and assigns, shall not, or do not, fulfil and perform the said several conditions, in every part thereof, according to the true intent and meaning of the same, then this Grant shall be void, and of no effect, and the land and premises hereby intended to be granted, shall revert to, and re-vest in us, our heirs and successors."

In the face of so special a condition, it is really surprising, that the proprietors of the Union Mill-dam should so long have been permitted to evade its fulfilment, to the very great damage, and almost the destruction of the fisheries of the Saint Croix. A *scire facias* on the part of the Crown, to enquire as to their compliance with the provisions of the grant, would no doubt quicken the perceptions of the proprietors as to the necessity of fulfilling those conditions, truly and fairly. Upon the proprietors of the Union Dam must rest much of the blame, for the damage that has been done by obstructing the free passage of fish; although there is no doubt that the dams higher up in the river, have contributed their share, toward the general injury, for which there is such just ground of complaint.

When the Union Dam was visited on the 4th September, there were two salmon nets set, in open daylight, just below the wasteway; they were both on the British side of the river. One of the nets was a very long one, and the two were so arranged, that it was almost impossible for a salmon to reach the dam; but, as if to prevent even that possibility, there was also a net on the American side. Not far below the dam, a party of Passamaquoddy Indians were encamped for the purpose of spearing salmon by torch light; the fish not captured, were turned back by the nets, and then fell a prey to the Indians. At this late period of the year, the salmon were, of course, out of season, quite black, and almost worthless. If this state of things be permitted to exist during another season, the last remnant of the once valuable and extensive fisheries of the Saint Croix will be wholly extinguished.

The two great branches of the Saint Croix, with their numerous tributaries, and the large lakes at the head of each branch, present every variety of river, lake, and stream, adapted to the breeding and feeding of fish. When this is considered, it is not at all surprising, that such great and almost incredible bodies of salmon, shad, and gaspereaux, as are described by every old resident, should have passed through the narrow gorges of the Lower Saint Croix, in their annual migrations from the sea. The wide-spread extent and the magnitude of the inland waters connected with the Saint Croix, are so well adapted to the propagation of fish on a large scale, and are such favourite places of resort for all that can reach the ancient haunts of the various species, that it will be highly discreditable to allow the extinction of the fisheries of this river, now threatened with total annihilation.

From Point Lepreau to the Harbour of St. John.

There are several harbours and inlets along this line of coast; but owing to its rocky and rugged character, the settlements are limited, and the inhabitants are not numerous. There are no regular fishing establishments; the settlers, in connection with the cultivation of the soil, follow fishing, chiefly with the view of supplying the market at Saint John with fresh fish.

The principal fisheries are those for cod and herrings; small haddock are also taken during the summer, but hake and pollack are comparatively rare. Along the coast from Point Lepreau up

to Negro Head, just below the entrance to Saint John, cod are taken with the long-line (or bultow) from Christmas until the first of June; the best fishing is in April and May—after that the cod follow the English herrings (*clupea elongata*) up the Bay. The long lines, or bultows, with 350 to 600 hooks, are set at the distance of one to two miles from the shore, in about 18 fathoms water. The hooks are on snoods, 3 feet in length, which are placed 7 feet apart on the “back,” or long line.

In the autumn, when the herrings again appear along this shore, cod are taken with hand-lines, on the “slacks” of the tide. In November last, fine cod averaging about 30 to the quintal, were taken by hand-line fishing, between Musquash and Lepreau. At that time, very fine herrings had made their appearance, requiring nets with $2\frac{1}{4}$ inch mesh; these continued to increase in numbers until January,—and while this report is being written, they are taken daily in considerable quantities. The appearance of large bodies of herring so close to the shore, during the depth of winter, is an unusual circumstance; in general, they do not approach this coast until the latter part of winter, or in early spring, and then only in moderate numbers.*

The fishermen of Saint John also prosecute the fisheries for cod and herring on this shore, in their own boats and vessels, whenever fish are to be had. During the early part of summer they also drift all along this coast, at some distance from the land, for salmon, while later in the season they drift over the same ground for the sea shad, then on the way to their feeding grounds in the upper part of the Bay.

There is an abundance of lobsters about Dipper Harbour, from which place the Saint John market is principally supplied; they are not large, rarely exceeding three pounds weight, and sell at three pence to six pence each, according to the season and the supply brought in. If better arrangements were made for bringing these lobsters to market, and for keeping them alive, when brought in large quantities, they could be sold even at less prices, with greater profit to the fishermen than at present.

Fisheries within the Harbour of Saint John.

The Fisheries within this Harbour belong to the citizens of Saint John, by a special clause in the Royal Charter incorporating the City, and are therefore under the management and control of the Common Council, subject, however, to such enactments, as are made by the Legislature, for the general regulation of the fisheries of the Province.

The various fishing berths, or lots, within the harbour, are disposed of annually among the freemen of the City, and the widows of freemen, being residents, by lottery. The lots on the eastern side of the harbour appertain to the freemen on that side; while those on the western shore, belong exclusively to the freemen

* While this Report is being printed, Mr. John Sandall, of Saint John, writes as follows, under date 17th March, 1851:—“At present, we are taking herrings, in nets of $2\frac{1}{4}$ and $2\frac{1}{2}$ inch mesh, in great abundance. I have never known them to be so plentiful at this season of the year. I should imagine, that from 3000 to 4000 barrels have been taken within the last three weeks—the poor fishermen have great reason to be thankful.”

residing there, in that part of the City usually designated as Carleton. There are from eighty to one hundred lots, on each side, which possess some value; varying from number one, of late years worth about £40, down to number eighty, which may be worth a dollar or even less.

The mode of disposing of the fishing lots in this harbour is highly objectionable, and in direct violation of the principles of the Provincial enactments, which strictly prohibit lotteries in every form—this fishing lottery being alone excepted. When the City was first settled, sixty eight years ago, and the population consisted of a few hundred families only, of whom very many were engaged in the actual business of fishing, it may have been very proper to dispose of the fishing stations among them by lot, as the most simple and equitable mode of annual distribution. But the reason has ceased long since. The wealth of the City has become very considerable, and its population has increased to 20,000, and upwards. The fishing lots are now purchased by the fishermen from those citizens, or widows of citizens, who are fortunate enough to draw good numbers in the lottery; and it is not at all uncommon for the wealthiest persons in the City to be waited upon by the hard-working fishermen, to know at what price they will sell their "prize in the fishery." The sums received by persons in easy circumstances for prizes in the fishery, are too often treated as other "prize money," and wasted in the like manner.

Instead of distributing the fishing lots, as at present, in a manner which does the least possible amount of good, and inflicts positive evil by inducing the spirit of gambling, with all its attendant evils, it is proposed by the writer, that the fishery numbers should be disposed of annually by auction, and the proceeds applied to the formation of an educational fund, for the establishment and support of a *Public Free School*, in which the children, or orphans, of citizens, shall have a preference over all others.

There may, perhaps, be other objects of public utility, to which the fund arising from the annual sale of the fishing lots might be judiciously applied; but there are, probably, few which could be suggested, that would do more real good, or meet with more hearty and cordial approbation from the great body of the citizens, than that which is now proposed. It is believed to be only necessary to draw the attention of the citizens of Saint John to the existing evil, and point out in what way it may be turned to a great public good, in order to have the object effected.

The fisheries of the harbour are those for gaspereau, shad, and salmon, which enter it for the purpose of ascending the River Saint John to their usual spawning grounds. The gaspereau, (*alosa tyrannus*) enter the harbour about the 10th of April, or very soon after. The first of these fish was taken last year on the 13th April; on the 22d they were abundant, and the fishing continued until about the 10th June. The shad (*alosa sapidissima*) make their appearance about the middle of May; these are closely followed by the lordly salmon, (*salmo salar*), which continue to pass in large numbers until the first of August, although some, chiefly grilse however, continue to be caught in the weirs until the end of that month.

The following letter from John Sandall, Esquire, who has long been actively engaged in the fisheries, contains much valuable information in a condensed form :—

Saint John, N. B., 21st January, 1851.

SIR,—In reply to your circular of 12th August, I beg to state, that the gaspereau or alewives, spring shad, and salmon, are taken in this harbour by weirs and drift-nets. The weirs are made by setting up nets of about 2½ inch mesh, upon tall poles. A great many salmon are taken outside of Partridge Island, in the Bay, by drift-nets. The fall shad are all taken in the Bay, during the night, also with drift-nets. The drift-nets for salmon and shad, are 40 meshes deep, and each boat has 200 fathoms of net.

"I cannot say much about the cod, pollack, or mackerel fisheries, as it has been found, that they will not pay out of this harbour.

"The gaspereau fishery commences with us, as soon as the river opens, and continues about six weeks; this fishing depends in a great measure on the spring freshet. The spring shad come in about the middle of May, but this fishery is of little consequence. Salmon fishing begins the middle of June, and continues until the first of August, but the weirs catch a few up to the end of that month.

"The greater part of our gaspereau are shipped to Boston, and all our salmon are sent there, either packed in ice or smoked, and we have to pay a duty of 20 per cent.

"Herrings are taken around Grand Manan and West Isles, by torch-light, and by brush-weirs; these weirs must destroy a great quantity of fry every season.

"The herrings and gaspereau, as soon as possible after being caught, are placed in casks for the purpose of being "struck," as we call it; when sufficiently salted, they are packed in barrels, which should contain 200lbs. of fish, by the inspection law, but the law itself appears to have become a dead letter. It is desirable that we should have a good strict inspection law; it would perhaps cost us some sixpence or ninepence per barrel more than at present, but I am confident we should be gainers by it.

"I know of no fish being used as manure, but it is notorious that the whole of the Bay of Fundy is fished by vessels from the United States.

"The fishery in this harbour is gradually falling off, as I believe, from the great quantity of saw dust thrown into the harbour, and the erection of saw mills, and mill dams, on the different streams falling into the Saint John, to which the salmon and gaspereau usually resort to deposit their spawn.

"I would also mention, that in my opinion, the deep sea fishing will never be followed to any extent in this Province, unless there is some encouragement granted to our fishermen in the shape of bounty, and also protection, by compelling the Americans to fish within the Treaty limits. Gentlemen may talk about American enterprize, but give us an equal chance with them, and if we do not match them, it is our own fault. The American Government not only grants their fishermen a bounty, but also a heavy protection, in the shape of duties on foreign-caught fish; and when you consider, that all our fish have to go to the States for a market, is it any wonder we cannot compete with them?

"I believe you are aware, that most of the young fishermen of Grand Manan, are removing to the United States, in consequence of the high wages given them for their skill in fishing, and as Pilots in the Bay of Fundy.

Your obedient servant,

JOHN SANDALL.

M. H. Perley, Esquire."

In addition to this letter, Mr. Sandall has been good enough to furnish the following, as his estimate of the value of the fisheries in the Harbour of Saint John during the season of 1850 :—

32,000 Salmon, which brought 5s. each,	£8,000
14,000 barrels of Gaspereau, at 15s. per barrel,	10,500
The Shad fishery amounted fully to	1,500
Total,	£20,000

The prices thus stated by Mr. Sandall, are those obtained by the actual fishermen, and at least twenty-five per cent. must be added for the net prices received from abroad by the dealers, for the same fish. The persons who packed the salmon, in boxes with ice, for the Boston market, last season, paid to the fishermen an unvarying contract price, of five shillings for each fish, whether large or small; and there is good reason to believe, that the same fish sold at the average price of ten shillings each, in Boston. The price of gaspereau, especially if well cured, was in the same way, 17s. 6d. per barrel. Mr. Sandall states the price obtained by the fishermen, after deducting the expense of the barrels and salt.

The shad which pass up the river in the spring, are spawning fish, of large size, heavy with roe, and very thin. As a matter of course, these fish have but little flavour, as compared with the fat and luscious sea shad, taken in the autumn, and are scarcely worth salting. The value of the shad fishery, stated above by Mr. Sandall, is that for sea shad, taken outside the Harbour, by drifting during the night; shad so taken, although of very fair quality, are, however, inferior to those caught at the head of the Bay, which are fully described in the subsequent part of this Report. It is much to be regretted, that the spring shad should be caught at all; they are of little value when taken, and their capture, by destroying the breeding fish, tends greatly to the injury of the valuable shad fishery of the Bay, which ought to be most carefully preserved and protected.

There can be no doubt, that the large quantities of saw dust and rubbish from the saw mills, which have been cast into the harbour of late years, have been highly detrimental to the fisheries, and most injurious to the harbour itself. The writer's official duties, as Emigration Officer, during the last eight years, have rendered it necessary for him to be much afloat within the harbour every season, and to visit Partridge Island at its entrance very frequently. The damage done to the harbour within that period, and the injury to its navigation, especially for large vessels, can scarcely be appreciated by those who have not watched its progress, or examined its results.

The great floods of the Saint John, occasioned by the melting of the snow and ice at the close of winter, or by heavy rains at other periods, bring down large quantities of fine silt, or alluvial matter, rendering the water at those periods extremely turbid. This alluvial matter encounters the saw dust in the harbour, and jointly, they form a deposit, which soon attains much solidity wherever it happens to rest. The western channel into the harbour has shoaled very considerably, as well from the deposit of silt and saw dust, as the aggregation of slabs, rinds, and edgings, sunk there; while the bar at the eastern end of Partridge Island, is found to extend and increase year by year, threatening to damage the eastern channel very considerably.

It is the opinion of several competent persons, that an expenditure of £10,000 would not probably bring those channels into the same condition and fitness for navigation, as existed prior to 1840. Notwithstanding the able and careful Report of the Commissioners

appointed to inquire into the saw dust nuisance in the Harbour of Saint John, (printed in the Appendix to the Assembly Journals for 1849,) the evil will probably continue to increase, until the Legislature is called upon to make a large appropriation for improving the navigation of this fine harbour, which must be done at no very distant day, if the present state of things is allowed to continue.

The weirs in the Harbour of Saint John, as described by Mr. Sandall, are made with nets stretched on long poles, and they are all dry at low water. From the beach, at high water, a net is stretched out toward low water mark, at right angles to the shore; this is called a leader—it serves to conduct the fish through narrow openings, into the circular chamber, also formed of nets on poles, from which they are taken when the tide is out. This description of weir is sometimes called a “fyke,”—nothing can escape from it, unless it be so small as to pass through the meshes of the net.

Great quantities of gaspereau and salmon are taken in the harbour by drift-nets; and although this mode of fishing is prohibited by law, yet it is openly followed in broad day light. Some years ago, attempts were made by the Overseers of the Fishery, to prevent drifting in the harbour; but latterly they have looked on quietly, and allowed the fishermen to do as they pleased.

The Common Council have, more recently, gone a step further. By a bye-law for regulating the fisheries within the limits of the City of Saint John, passed by that body on the 4th December last, it is provided, that “no drift-net shall be used after the tenth day of June, in any year, for the purpose of catching fish, in any part of the Harbour of Saint John, on the westerly side of Partridge Island, nor within, or to the northward of straight lines to be drawn, the one from a point commonly called Black Point, on the western side of the said harbour, to the most westerly point on the said Island, and the other from the most easterly point on the same Island, to a point called Lower Battery Point, on the eastern side of the said harbour, under the penalty of ten pounds for each and every offence.”

This bye-law, by implication, sanctions the use of drift-nets up to the 10th day of June in each season, and is believed to be in direct violation of the Acts of Assembly relating to the fisheries.

The use of nets on the Sabbath, is prohibited by the law of the Province, and although drift-nets are not generally used on that day within the Harbour of Saint John, yet it is not at all unusual to see them employed on the Sunday, by parties who appear perfectly indifferent to public opinion, for no other force is used to prevent this desecration of the Sabbath. The weirs are fished on that day, as on other days of the week, and they generally get a better catch on Sunday, owing to the drift-nets being less used.

In Ireland, where this description of weir is much employed for salmon fishing outside, or to seaward, of the mouths of rivers usually frequented by salmon, it is required by law, that the nets shall be lifted out of the water at the first time of low water after

Saturday at noon, and they must not be set again, until after sunrise on Monday morning.*

This wholesome and judicious regulation, ought, for a variety of reasons, to be strictly enforced at Saint John; and it is somewhat surprising that "The City Fathers" should have neglected this very important provision in their bye-law.

If the citizens of Saint John desire that laws should be made and strictly enforced, for the protection and preservation of fish after they have ascended the Saint John, and reached their spawning grounds in its tributaries, they must set the example of obedience to the laws within their own limits, by fishing in a fair and proper manner, and only during six days of the week. The fishermen of Saint John exclaim loudly, and not without cause, against mills, mill dams, and other obstacles to the free passage of the fish up to their spawning beds; they denounce in the strongest manner, and very justly, the practice of taking salmon by torch and spear, after reaching those beds, and when out of season; they deprecate in unmeasured terms, the casting of saw dust and mill rubbish, into streams frequented by spawning fish, which is undoubtedly productive of serious injury to the fisheries, by diminishing the propagation of the various species which breed in fresh water; but at the same moment, they are very likely prosecuting the fisheries at the entrance of the Saint John every day in the week, Sunday not excepted, and by modes of fishing, which in some respects, are equally objectionable, as well as illegal.

The River Saint John and its Tributaries.

The gaspereau and shad rarely ascend the Saint John higher than Fredericton, about eighty miles from the sea,—four miles above which the swift water and strong rapids commence. Their favourite places of resort are Darling's Lake, (a part of the Kennebecasis River,) the Ocknobog Lake, the Washademoak Lake, the Grand Lake, and the Oromocto River; all pieces of water rather sluggish in their character, and generally with muddy bottoms. In passing up the rivers to their spawning grounds, many gaspereau and shad are caught by the inhabitants, chiefly during the night, in set-nets.

Salmon proceed up the Saint John to the Grand Falls, upwards of 200 miles from the sea; and they ascend many of its branches and tributaries, for very considerable distances. The writer, at various periods, and at different seasons of the year, having traversed the Saint John, from Partridge Island to the head of Lake Temiscouata, (about 300 miles) and proceeded up nearly all its principal tributaries, generally in light canoes, is enabled to offer a general view of the state of the different rivers usually resorted to by spawning fish from the sea.

The first river which the fish enter, after passing the Falls above the Harbour of Saint John, is the Kennebecasis, flowing in from the eastward. Salmon ascend the main stream to Sussex Vale; and also the Hammond River, one of its branches, to 'Titus' mill

*See Brabazon on the Deep Sea Fisheries of Ireland, page 55, where also will be found a description of this mode of fishing, with drawings of the nets, and the manner of arranging them.

dam, which has no fish-way, and stops their further progress upward to their former spawning grounds, very far up that river. From Darling's Lake to Titus' mill-dam, on this tributary, and from Hampton Ferry to the head of Sussex Vale, on the main stream, the salmon are hunted and destroyed, in every possible way, by nets, and with torch and spear,—in season, and out of season. The inhabitants appear to be actuated by an insane desire to destroy every salmon which appears in these rivers; and no sooner is it reported, that salmon have been seen, in any particular pool, than the whole neighbourhood is in commotion, with preparations for their destruction—the fish are pursued with untiring zeal, until all are captured, except a very few, which, perhaps, escape to some place of shelter and safety.

The next river, in ascending the Saint John, is the Nerepis, which falls in from the westward. This is a swift-flowing river, with a rocky and gravelly bed. In the summer season, there is but little water in it; but it is subject to sudden floods, from the high hills in its vicinity, which pour down great bodies of water after rain storms. Fortunately, there are no mill-dams on this river, and therefore, no obstruction, to the free passage of fish. The spawning grounds are far up the Nerepis, in secluded places, near springs of very cold water; and, as the salmon are able to reach these distant spots, they breed in comparative safety. There is a valuable salmon fishery near the entrance to this river, at Brittain's Point, (Alwington Manor,) where from 1500 to 2000 salmon have been taken annually, for a long succession of years.

The Washademoak is next in order, ascending; it enters from the eastward. Gaspereau and shad go into the lake; but salmon pass through it, and ascend the New Canaan River, which feeds it. Here they are caught in considerable numbers, without regard to season; but it is believed that many fish are bred in these waters.

The Jemseg is a narrow, deep channel, which connects the Grand Lake with the River Saint John; its entrance is three miles above Gagetown, flowing in from the eastward. Salmon pass through the Grand Lake, in order to ascend the Salmon and Gaspereau Rivers, at its eastern extremity. The Gaspereau River is now barred at its very entrance by a mill-dam, which wholly excludes fish from that river. The Salmon River was also barred by a dam for some years; but this was swept away by a flood, about seven years ago, and salmon have returned to the river in large numbers, as it is a favourite breeding place. They are, however, poached and destroyed in every way, throughout the entire season, both by Indians and lumbermen, in every part of this fine stream, up to the Richibucto Portage, and even beyond it.

The Oromocto, as its name implies, is a deep river, entering the Saint John from the westward. For twenty miles, or more, it is navigable for vessels of sixty tons burthen, or river steamers of large class. Then it separates into two branches, both flowing from large lakes, up to which, salmon, shad, and gaspereau formerly ascended; but now they are prevented by mill-dams, on each branch, at short distances above navigable water. The dam on the South Branch has no fish-way, and that on the North Branch has

a sort of sluice, intended as a fish-way, but it is not sufficient. Many gaspereau have been caught below this dam, while struggling to get up to the Oromocto Lake, formerly a favourite haunt.

The Nashwaak flows into the Saint John from the eastward, nearly opposite the City of Fredericton. Salmon formerly ascended this river, for forty miles or more, but are now prevented by the substantial mill-dam which crosses the river, from bank to bank, about three miles from its mouth. From the vigour with which the salmon have been persecuted below the dam, while struggling to ascend, very few are now taken in the river, and shortly, they will cease entirely to frequent its bright and swift-flowing waters.

Between Fredericton and Woodstock, several small tributaries enter the Saint John, from both sides, in most of which there are mill-dams. The Maduxnaqueag, at Woodstock, formerly abounded with salmon; but the mill-dam at its mouth now excludes them altogether. The Begaguinic, above Woodstock, is also closed by a dam at its entrance; while other small rivers, up to the Tobique, are also obstructed, in a greater or less degree.

The Tobique is a magnificent river, which waters a wide extent of country, east of the Saint John. A mill-dam which was erected at the Red Rapids, about fourteen miles above its mouth, was cut away by the lumbermen, because it obstructed the navigation, and was therefore a public nuisance. There is nothing now to prevent salmon ascending this river, and very many still go up it every year; anciently, they passed up in thousands. There is an Indian village at the mouth of the Tobique, which is the principal settlement of the Millicetes of the Saint John; and these Indians, aided by lumbermen, and poachers of all shades, from every clime and country, pursue the salmon up to the very sources of the river, and destroy them by every species of contrivance, without the slightest regard to season, or the condition of the fish.

The Arestook is another noble tributary of the Saint John, entering it from the westward, about two miles above the Tobique, on the opposite side. Owing to some lofty falls on this river, about four miles from its mouth, and within British territory, salmon can ascend it no farther, and here also, they are subjected to great slaughter. Very few salmon ascend the Saint John above the Arestook, although some occasionally reach the basin below the Grand Falls; when they do, they are netted and speared in such an effective manner, that few ever escape.

From this brief notice of the principal tributaries of the Saint John, frequented by salmon, it will be seen how greatly fish-ways are required in the various mill-dams, and the necessity that exists for some superintendence over these rivers, as otherwise the breeding fish will be wholly destroyed ere many years elapse, and the valuable fishery in the Harbour of Saint John, and along the lower part of the river, will scarcely exist.

The attention of the fishermen of the City of Saint John is especially directed to this important matter; they, and all others interested in the preservation of the salmon fishery of the Saint John, now exceedingly valuable, and yearly becoming more so,

should exert themselves, by all legitimate means, to maintain, and if possible, increase the fishery. A small subscription might be set on foot, to send fit persons up some of the principal rivers, especially the Nerepis, the Salmon River at Grand Lake, and the Tobique, to prevent the destruction of breeding fish there. Under proper enactments, and efficient management, great good would speedily arise, without any very serious expense. The numbers of salmon would be found to increase, as rapidly as they have done in those rivers of Ireland and Scotland, which, when nearly exhausted, have been again filled with fish in abundance, after a few years watching and preservation.

From the Harbour of Saint John eastwardly to Cape Enragé.

This line of coast is generally bold, and rocky; up to Point Wolf it is fully entitled to be designated an "iron-bound shore." The harbours are few and small, and accessible only at high water, or a little before. There are no regular fishing establishments; and fishing is followed by the settlers on the coast, in an irregular and desultory manner, just as fish happen to strike in, or as it suits their convenience.

The first inlet east of Saint John, is Port Simonds; at its head it receives the Mispick River, which flows out of Loch Lomond. Formerly, salmon ascended the Mispick and were caught in the Loch; but they were wholly excluded from the river about twenty five years ago, by mill-dams just above the tide-way, and none have since been seen in it. Occasionally, some few salmon are yet caught in the Port, as also herrings. In June and July, there is tolerable line-fishing for cod and pollack, near Black Rock, at the "slacks" of the tide.

Cape Spencer is a bold promontory stretching out into the Bay, and causing a very powerful race, or tide-rip. In the season, pollack may be taken in this race in great numbers, but it is considered a dangerous fishing ground. Beyond Cape Spencer, the shore is bold and lofty to Black River, which finds its way to the sea, through a very narrow gap with high cliffs, on either side. There is a solid dam without a fish-way across Black River; beyond this, the shores are not so high, a narrow slip of the red sandstone formation commencing a little east of Black River, and continuing about eight miles along the coast, being in that distance intersected by Emerson's Creek, and Gardner's Creek. Up both these creeks, salmon formerly ascended to spawn; but mill-dams, without fish-ways, now exclude them. At Gardner's Creek, there is an exceedingly fine farm on the red sandstone formation, occupied by Messrs. Dewar, which is in a high state of cultivation. Mr. Peter Dewar stated, that capelin come in on this shore early in June; he has seen them in great abundance, at various periods, not only here, but also at Quaco. When the capelin are in, cod are also abundant; but after the capelin leave, haddock only are taken during the summer, but they are very numerous. Herrings strike in here every season, but the quantity varies greatly. During the season of 1850, Messrs. Cunningham, who live to the eastward of Gardner's Creek, caught twenty five barrels of herring

with one net only, twenty fathoms long and one hundred and twenty meshes deep—the mesh two and a half inches. The herrings make their appearance about the 15th of June, or soon after, and the fishing for them continues until the end of August; they are full fish, nearly ready to spawn. No shad have been caught, but mackerel are occasionally taken in the herring nets. During August, every year, Messrs Dewar have set a salmon net at the entrance to Gardner's Creek, and caught two or three salmon every night. Lobsters are very abundant; almost any quantity may be taken, with proper nets or pots.

The entrance to Teignmouth Harbour, better known as Ten Mile Creek, is very narrow; the harbour is dry at low-water; at high tide, there is sixteen to eighteen feet water. The lower dam on this creek, is one mile from the sea; it is said that salmon may get over this dam, but they can ascend no farther than the second dam, only half a mile above the first, as that effectually bars their progress. The harbour was visited on the 17th September; a salmon net was then set completely across the entrance, so that not a fish could enter. Within the harbour, Messrs. Lovett and Parker were building a ship of 800 tons. Mr. Lovett said, that fish were abundant at Teignmouth; formerly they had a spring-weir across the mouth of the harbour, but it was carried away the previous spring, and had not been repaired; it secured a great many herrings, as also salmon and cod. This spring weir consisted of a strong net, stretched on stout poles; it lay flat upon the bottom while the tide was flowing, and at high-water it was "sprung," or raised to a perpendicular position, by powerful capstans. Messrs. Lovett and Parker caught one hundred and fifty salmon during the past season, at the entrance to the harbour, from twelve pounds to twenty one pounds weight each; they also took a number of grilse. The first salmon are usually taken at the end of July; but the fishing for them continues as late in the season as any can be caught. Lobsters are abundant here; capelin have been often taken in the weir, and also very small gaspereau, but no large ones. Mr. Lovett gave it as his opinion, that a very good fishery might be established here. One year the firm had no ship on the stocks; they turned their attention to the fishery during that season, and succeeded very well. They fished at Stanley's Cove, (about two miles west of Teignmouth,) and caught one hundred barrels of herrings; they had only two nets of thirty fathoms each, with a mesh of two and a half inches. At Roger's Pond (two miles east of Teignmouth) they found good line-fishing, at a quarter of a mile from the shore; cod were plentiful during June, and after that, came pollack and haddock. Large halibut, some of them weighing six hundred pounds, were also taken on this ground.

In the road-stead of Quaco, and off the Head, the fishery is of the same general character as that just described. Besides line-fishing occasionally, herrings are taken in nets, and also in weirs; but the inhabitants are so actively and earnestly engaged in ship building, which is carried on extensively at Quaco, that they have little time for fishing—and from the want of shelter during south easterly gales, the place is not visited by fishing vessels.

At Great Salmon River, there is a small but very safe harbour for small vessels, within a high sea-wall of gravel; but it can only be entered at high water. The river is a large and powerful stream; for nine miles from the sea, it rushes with much impetuosity through a deep, narrow gorge in the hills, the cliffs on either side rising to the height of 600 to 800 feet. Beyond this gorge, the river flows more gently, through an undulating country, with much good land, exceedingly well timbered.

Just where the river makes its final leap into the sea, there is a solid dam from bank to bank, upon which there are two double saw-mills; a quarter of a mile above, there is another dam of similar character, upon which there is one single saw-mill. In neither of these dams is there any fish-way, and fish are therefore wholly excluded from the River.

Mr. Patterson, who has charge of the mills here, said the River formerly abounded with salmon, and thence derived its name; now, none whatever are taken in it. There is a wasteway for surplus water at the eastern end of the lower dam; and Mr. Patterson admitted, that a fish-way might be placed there, without damage or inconvenience, as also at the eastern end of the upper dam, the situations being almost precisely alike. Outside the harbour, on the sea beach, Mr. Patterson has a small weir; during the last season, he caught 36 salmon in it, as also some herrings, and a few good shad. Capelin appear in June, and while they remain, there is good line-fishing for cod, off the harbour, at very little distance from the shore; during the summer, pollack and haddock are taken, but there is no line-fishing during the autumn.

Long Beach is about two miles above the entrance to Great Salmon River; there are three families settled close to the beach, who fish a little and farm a little, but do neither effectually, and they appeared in great poverty. A very long and wide gravel bar juts out into the bay, which is left entirely dry at low water; between this and the shore, wholly within the bar, is a mud-flat, on which stands a brush-weir for taking herrings. It is built in an irregular semi-circle, and is about 200 yards in length; in the centre it is five feet high, gradually diminishing to one foot at each end. Herrings are usually abundant at this place during the month of July; they are then full of spawn, which does not attain its full size until August—after that, it is supposed they spawn on the coast. During the season of 1849, herrings were unusually abundant here, but the settlers had no salt to cure what were taken in the weir; they gave away herrings to every body that would come for them. One tide, they gave away five large boat loads to people from Quaco, reserving 30 barrels for themselves; but these all spoiled before they could procure salt.

The settlers here (Jabez Wright, and two families named Tufts) cured sixty barrels of herrings from the catch of this weir, during the season of 1850; these, on examination, were found to be the true herring, from 10. to 12 inches in length, and of very good quality.

It was stated by Jabez Wright, that in former years, during the month of June, he had seen the capelin come on shore here in

"windrows"—the pollack would pursue them up to the very beach, upon which the capelin came in with the surf to spawn, as is their custom—for the last two years, they have not been so abundant. There is good line-fishing for cod, at very little distance from the beach, during June and July; after that, some haddock and pollack may be taken—hake are rare, and halibut are only caught occasionally.

Long Beach appeared to be one of the best stations on this line of coast for prosecuting the herring fishery, or for line-fishing. Besides the insufficiency and small size of the weir, it has a water-gap near its centre, to let out the waters of a brook, which flow through it; and it is only when the fish are sufficiently abundant to choke this gap, that any quantity can be taken. The situation is recommended to the attention of fishermen seeking a location. No set-nets have yet been tried here; it is supposed that sea shad might be caught by drifting, as they are frequently found in the weir.

The settlers here said, that before the dams were built across Salmon River, the fishing was excellent, and persons came from all parts to catch salmon there. One man had caught as many salmon there, during a single season, as sold for £90; and during another season, fifty years since, Wright and the Tufts caught 40 barrels, while some others who fished in company, caught 20 barrels more—now, not a single salmon is caught in the river!

Little Salmon River was next visited; it is very similar in its character to the larger river, but its banks are even more lofty, being said to be at least 1000 feet high in some places. The mill-dam is about half a mile from the sea, and it effectually precludes the salmon from ascending as they did formerly. The mills and buildings are in a very picturesque situation. Directly behind the dwelling house of Mr. McDonald, who manages the mills, there is a very steep hill, whose summit was stated to be 800 feet above the sea. There is a road to the interior, which rises from the mill-pond, by zigzags, up the side of another thickly wooded hill, to the height of 600 feet; by this road there is a communication with Sussex Vale, through the valley of Trout Brook.

Mr. McDonald said he had only caught one salmon during the season, and that was accidentally left in a pool below the mill, by the ebb tide. He has a small herring weir on the beach, near the mouth of the river, in which he caught 16 barrels of herrings during the season of 1850. In 1849, he frequently let out 100 barrels on a tide, having no salt to cure them. There is very fair line-fishing off this river, but there is nobody to pursue it.

The singular bluff known as Martin's Head, is connected with the main land by a long gravel beach, which is well adapted for fishing purposes; there is also a fine farm, but it is now tenantless. There is good line-fishing off the Head; in July last, two boys in half an hour loaded a boat of 16 feet with cod. There was formerly a large brush-weir at the beach; last season the mill-men at Goose Creek put some nets upon its remains, and caught a fair supply of herrings. It is to be regretted, that so good a farming and fishing station as Martin's Head should remain unoccupied.

At Goose Creek, about three miles above the Head, there is, as elsewhere, a mill-dam which wholly prevents the passage of fish. This dam was built twelve years ago; before that time, salmon ascended the stream in considerable numbers, but of late years, none whatever have been seen, even at its entrance. Herrings are taken occasionally near the mouth of the creek, but the fishing is only followed when the settlers have no other occupation—one person here builds a vessel occasionally, the rest are engaged about the mill, and in lumbering.

At Goose River, a few miles above the creek, there is a safe harbour for small vessels, which can lay aground at low water without damage. At the lowest neap tides, a vessel drawing nine feet water can enter this harbour; the channel is eighty yards from the base of the cliff on the western side, from which it draws over to the high gravel bank on the opposite side; passing this, the basin is entered; in any part of it vessels may be grounded safely. Two small rivers fall into the basin, but now, salmon can go up neither; there is a mill-dam on one, and the remains of a dam and flume on the other, which effectually stop them. There are four settlers at this place, who have their farms on the elevated plateau, or table land, on the top of the steep hill on the eastern side of the river. The principal settler is Brian Doherty, from whose log house there is an exceedingly fine view, with Isle au Haut and Cape Chignecto in the distance; the ascent to the settlement is exceedingly steep, but the land when reached, is of good quality, and appeared to yield an excellent crop—the cleared land is probably 500 feet above the level of the sea.

The settlers said, that for two miles up each branch of the river, the banks are lofty and precipitous; beyond that there is a fine stretch of good land, not stony, and covered chiefly with hard wood—through this there is every facility for a good road, towards the Mechanics' Settlement, crossing the Shepody road. They stated that there was good line-fishing off the harbour for cod, pollack, and caddock; of the cod, 35 to 40 fill a barrel, and the pollack are even larger. The fishing begins as early as 5th May, and continues until the end of July; before they can procure herrings for bait, they use small trout, which the boys catch with rod and line in the river; trout are abundant, but they rarely exceed half a pound in weight. During the past season, they caught seven barrels of salmon at the entrance of the harbour, with a small brush weir and a short net.

As Goose Harbour can be entered by coasters soon after half-tide, and is sheltered from every wind, it is very desirable that some distinguishing marks, or beacons, should be set up to denote its entrance. There is very little doubt that a profitable fishery might be established at this place, by competent persons possessing sufficient means.

Point Wolf River is a large stream, of similar character with that of the other rivers of this coast. Like those rivers also, a substantial and rather lofty mill-dam prevents all fish from ascending, although many salmon yet enter the large basin beneath the dam. The saw mills are on an extensive scale; they belong to Messrs. Vernon,

of Saint John, who procure their supply of logs within twelve miles of the mills. Owing to the difficulty of floating down logs in 1849, from the want of water, the mill-men were idle during part of the summer; from lack of other occupation, they were employed in constructing a weir on the flats within the bar. In this weir, nearly 500 salmon were caught during that season; of these, 21 breeding fish, heavy with spawn, were taken alive, and carefully conveyed in casks of water, to the river above the dam, into which they were turned without injury. This was a very judicious step towards preserving the salmon fishery of this fine river; but it is greatly to be regretted, that Messrs. Vernon have not already set up, and maintained, a sufficient fishway. The supply of logs decreases annually, and after a time will cease altogether; but if the salmon are preserved, they will prove a source of wealth, long after the saw mills are worn out and useless.

The weir having been carried away by ice, no salmon were caught during the season of 1850; and the mills being in full operation no other fishing was carried on, although herrings and cod were to be had outside the entrance to the harbour.

An entire change in the geological character of the coast, begins at Point Wolf. The trap, syenite, felspar, and porphyritic rocks, which, up to this point, chiefly compose the rugged and precipitous cliffs fronting upon the Bay, here give way to the sandstones of the coal measures; and this formation continues without interruption to the shores of the Gulf of Saint Lawrence. With this geological change, there is also a change in the character of the fisheries; the coincidence is somewhat remarkable, although perfectly natural. The cod delight in clear water, over a hard bottom; while the shad rejoice in muddy waters, and especially delight in the extensive mud-flats of the upper part of the Bay, from which they procure the food that renders them so excessively fat and delicious.

At Herring Cove, just above Point Wolf, there is very fair herring fishing during the season; from this cove a new road has been laid out, and lots surveyed for settlement on the labour system. This road passes through some back settlements, and is continued to the Pollet Lake in the Mechanics' Settlement; it will, when completed, be of much value to the settlers in the forest, by enabling them to reach the coast with their produce, at a place where it can be shipped to market, and where they may procure fish of the best quality to be carried into the interior.

A little to the eastward of Herring Cove, is a small settlement, called Cannon Town Beach; and here for the first time in going up the Bay, a regular shad fishery was found. At this beach, there are two brush weirs expressly for taking shad; formerly herrings were plenty at this place, but they have been very scarce during the last seven years. There are fourteen shares in the weirs at Cannon Town Beach; and each share gets about eight barrels of shad annually. On the 20th September, the fishing was considered nearly over for the season; the shad taken that morning were exceedingly small—they would scarcely weigh a pound each, and were called by the fishermen "round fish." The greater part of the shad taken at this beach, during the past season, were of

small size; the weirs, by taking these small fish, must do a great deal of mischief to the shad fishery generally. It was stated here, that there was no drifting for shad west of Cape Enragé, the Bay being too wide and stormy, and the water too clear.

The Upper Salmon River, which falls into Salisbury Cove, (generally called Enragé Bay) is muddy at the entrance, and the strong tide of the Bay sweeps in and out with great force. There is a large brush weir here, for taking shad; those caught in it during the season of 1850, were of small size—very little larger than gaspereau. About forty barrels of these small fish were caught in this weir at one time, during August, and there being a flood in the river at the moment, the combined weight of the water and the fish, carried away the centre of the weir. The fish escaped, and the weir was not repaired; this was fortunate, as the weir is calculated to do much damage by taking small shad. There is a mill-dam at the head of the tide on this river, which the salmon can get over. It was stated, that nearly all the salmon which passed, were speared almost immediately after, in the shallows above the mill-pond. This place was visited on the 20th September, and only a week previous, several salmon had been speared in the stream; of course, they were out of season, and almost worthless at that late period.

To the westward of Cape Enragé, in Enragé Bay, there are three weirs for shad on the flats; these are said to be very destructive to small shad, few large fish being caught in this locality.

From Cape Enragé to the Boundary of Nova Scotia.

Above Cape Enragé, the valuable shad fishery of the north eastern arm of the Bay of Fundy, may be said fairly to commence. The fishermen here, who chiefly reside in the Parish of Hopewell, near the Shepody River, fish the whole distance from Cape Enragé, to Cape Demoiselle, at the entrance to the Petitcodiac River; above that point, the fishermen of Hillsborough and Memramcook, fish the Petitcodiac up to Stoney Creek, above which not many shad are caught.

Ezra Bishop, a shad fisher, residing on the banks of the Shepody River, stated that he usually drifted for shad in Shepody Bay, between Capes Enragé and Demoiselle. He has six nets to his boat, each twenty five fathoms long; the mesh is five inches—none of the fishers here use a mesh of less size, as they want the large fat shad only. They fish between seed time and hay making; very seldom after that. Bishop usually catches each season, from twenty to thirty barrels of prime shad; and he supposes, that at least one hundred barrels are taken in Shepody Bay, each day that the boats go out. Very few herrings are taken above Enragé; but they sometimes catch *prilse*, (or "fidlers" as the fishermen call them,) in the shad nets. Salmon do not enter Shepody River, the water being exceedingly muddy. There are a few weirs in Shepody Bay, which are not very successful; the shad caught in them are much smaller than those caught in the drift nets. Only six shad boats go out of Shepody River, but others fish occasionally—nets are let out on shares by Mr. Isaac Turner, to persons who fish at intervals.

Mr. Bishop is of opinion that more boats than now fish between Cape Enragé and Cape Demoiselle, might pursue the shad fishery with advantage; but in the Petitcodiac, above Demoiselle, he thinks there are quite boats enough. From Grindstone Island down to Enragé, sharks frequently do much damage to the nets. They come up the Bay in the latter part of the season, and cause the shad-fishers to close their fishing much sooner than they otherwise would. This species of shark, (*carcharias vulpes*—or “the thresher”) is usually taken here, of the length of six to eight feet; if one of them strikes the outer drift net, he is generally taken, as this net swings with him, and he becomes entangled by rolling up the net, with its buoy-rope and lead-line, in such manner as effectually secures him, by preventing the use of his exceedingly powerful tail. If the shark strikes one of the nets near the boat, which does not yield to his motions, he destroys it almost completely before he escapes. During the past season, Bishop secured three sharks, of the length of six, seven, and eight feet respectively; he cut out their livers and let the bodies float away—each of the livers yielded six gallons of oil. At times, dog-fish are abundant in this locality—Bishop said he had the past season, taken a cart-load out of a single shad-net, all caught during one tide.

At Shepody, shad are cured in the following manner:—The fish, after being split, are soaked in two waters, an hour in each. They are then salted in tubs in the boats, as the Shepody boats usually stay out a week; when the boats come in, the fish are fully salted. In this state, they are sold at 30s. for 200lbs. They are not packed in barrels; the farmers take them away in waggon, as fast as they are ready, and none are put up for exportation, or for sale elsewhere.

On visiting the Petitcodiac, above Cape Demoiselle, it was found, that the shad boats in general use were about 16 feet in length, on the keel, and 18 feet over all; the breadth of beam $7\frac{1}{2}$ feet. They are fitted with one mast and two sails—a mainsail and jib. The stem, stern-post, keel, and bottom planks are of birch; the upper streaks of spruce and pine—the boats are generally built by the fishermen themselves, during the winter, and the usual cost of a boat and sails is £10 or £12. The shad fishing in the Petitcodiac is generally by drifting during the night; each boat has usually 150 fathoms of net, but some fish with 200 fathoms. The nets are from 20 to 30 fathoms in length, 46 meshes deep; the mesh is $4\frac{1}{2}$ inches. All the fishermen complain of the very short time the nets last; if not oiled, tanned, or prepared in some way, they are completely rotten and useless in a month; and even with every preparation yet known here, they will not last a whole season of three months, even with the greatest care.

It was stated by W. H. Steves, Esquire, M.P.P., that from Stoney Creek to Cape Demoiselle, the limits of the fishing ground in the Paria of Hillsborough, there are fifty boats belonging to that side of the river, which catch 20 barrels of shad each, annually. They use from 80 to 200 fathoms of net; besides shad, they take the small salmon of the Petitcodiac, in their drift nets, occasionally.

After visiting Bellevous Village, on the eastern side of the Petitecodiac, and examining the boats and nets there, the writer waited upon the Reverend Ferdinand Gauvreau, Parish Priest at Memramcook, who first induced his parishioners to adopt the mode of fishing for shad with drift-nets, and who has always taken the most lively interest in this fishery. Monsieur Gauvreau stated, that the first shad which appear each season, are green on the back, with a yellow tinge on the belly; these are good fish. The second run are of a pale green on the back, and as compared with the first, are a poor fish. The third and last run, come very near the end of the season; these have blue backs, and are the best and finest fish.

Since this visit, Monsieur Gauvreau has been good enough to forward a communication in writing, respecting this fishery, which possesses much interest. It is due to Monsieur Gauvreau to state, that he is not accustomed to write in English; but as he has done so on this occasion, his letter is given as written, lest any mistake should occur in rendering his meaning. The letter is as follows:—

“Dorchester, 10th December, 1850.

“SIR,—I acknowledge the receipt of your circular of 12th August, respecting the Fisheries of the Bay of Fundy; and I must state, that I am quite happy in giving you my share of information, respecting the meshing of shad in the upper part of the Bay.

“I will also have a little to say on codfish, as I have sent my boat down the Bay, for several years, when I gave up fishing altogether, and turned my attention to model farming—but not until my parishioners had become warmly engaged in the shad fishing.

“I will proceed to answer your queries, in the same order they occupy in your circular.

“1st. The mode of conducting shad fishing in the upper part of the Bay of Fundy is by drift nets, tied with a rope, about eight yards long, to the forepart of the fishing boat, or to the stern, to take advantage of the wind and stream of the tide, thereby keeping the meshes of the net sufficiently open for the unsuspecting fish.

“Our shad nets are usually made with the finest Russian twine. Some fishermen make them with cotton warp. No. 6, double thread and twisted; or with the home manufactured flax thread, which answers the purpose very well, when the flax crop is seasonably taken from the field, finely passed through the flax comb, and afterwards evenly spun and twisted.

“The meshes, stretched on a measuring rule, are $4\frac{1}{2}$ or $4\frac{3}{4}$ inches long, but are reduced to about $3\frac{1}{2}$ inches when secured to the upper and lower ropes. The floats, or buoys, are made of cedar, and turned smooth with a turning lathe, in order they should offer no obstruction whatever to the good working of the whole net, when it is lowered down into the water, or taken back into the boat. The floats are secured on the upper rope, which passes through them, by a strong thread, that binds them with the upper row of the meshes; three feet is the common distance between the floats, from centre to centre. The sinking leads are cast, polished quite smooth, and in the same quantity, and distance, as the floats, and tied in the like manner. A net of about forty-five meshes wide, would be near 16 feet deep. Made as above described, a net of Russian twine, 100 fathoms long, costs no less than £12; of cotton warp, £10; and of this country thread, something less than £9. A substantial and safe boat, fully rigged, costs £12; and it will stand good from five to six years.

“As to any improvement to be introduced in the manufacture of these nets, my opinion is, that none whatever could be devised, for the present. For, such as they are made, all my parishioners agree, they work so well, that if the stream of the tide were strong enough to stretch it properly, a net 100 fathoms long, might be thrown out of a boat, all in a bunch, and it would not get entangled in its sinking leads, nor in its floats.

"2nd. The proper and only season for shad fishing is generally from the month of July to the 15th September, so that it interferes very little with the farming business of the fishing-farmers.

"As you may presume, the shad is always of great value; as it is caught only in the summer, and in the greatest stir of navigation, it will for a long time command a good price at home, and in any foreign market.

"The average quantity of barrels of shad caught in the upper part of the Bay, among the French Acadians, is from 1000 to 1500 a year. Last summer, Francois Victor Leblanc, cured 30 barrels for his share.

"The shad-fishing ground extends from about eight miles below the Bend of Petitcodiac, at Stoney Creek, as far down as Grindstone Island, in the Bay, and thence easterly into the Bay of Cumberland—on the Nova Scotia side, the fishing is all with stationary nets, as far as the point of Amherst Marsh, directly opposite to the Minudie Village.

"There never was to my knowledge, any standing nets on the New Brunswick side, in the Bay of Cumberland; and although the Barnes family, on this side, had at first drifted their nets, they soon abandoned that mode and resorted to the stationary nets, but only on the Nova Scotia flats. These nets would not pay on this side Cumberland Bay, for you will be pleased to know, that shad always go with the strongest stream; and as the strength of the tide strikes altogether on the Nova Scotia shore, it is there you will see the whole of these mud-flats entirely covered with stationary nets.

"You will be pleased, sir, to be persuaded of what I have already stated, and what I have to state, upon the shad fishery, on the Nova Scotia side of the Bay of Cumberland, when you are informed, that for eleven years, I had to discharge my ecclesiastical duty, two and three weeks at a time, among the French Acadians of Minudie, and in the shad season very often.

"This leads me to your third inquiry; and for want of herring, I will satisfy you with shad.

"3rd. Standing weirs, and standing nets, are unquestionably, the most effective means of destroying shad altogether, in our Bays, or at least, of thinning their quantity to an incredible degree. Both ought to be discontinued at once, and prohibited by some strict laws, and defaulters heavily fined.

"My reasons for condemning both modes are—first, that by a standing weir, shad of all sizes are stopped, and those which have hardly attained the half of their natural growth, are either left to perish on the mud-flats, or else are cured *pele-mele* with the large ones; and when sent abroad, have the effect of bringing the good sized ones down to a miserably low standard. I have seen with my own eyes what I here mention, when one summer I went down, with five men, in my own boat—my "St. Peter"—to the large French weir, in *Grand Anse*, or *Grand Tasse*, as Dr. Geaner improperly calls it, in one of his Geological Reports. I had then an opportunity of making my own observations, as I was three days with a company of French attending the weir, sleeping at night on the hard ground in their rough abode, fishing the dog-fishes on the flood tide, and more particularly enjoying myself at low water, in catching the flirting shad inside the weir.

"Destruction of small sized shad, by both English and French, went on within this weir, and others, for more than forty years, and at that time there was not a single drifting shad net in the Bay. Then, contrary to their customary way, the English people of *Grand Anse*, (Big Cove,) one summer about ten years ago, without giving notice to the French people, without whom the English could not make it stand before, they put up again the mammoth weir, and thereby deprived my people of their old fishing foundation.

"My parishioners, of course, felt very much such an encroachment, and loss; but to convince them, that they could still have some shad in their frying-pans, I went to Richibucto and bought a boat of nineteen feet keel, got a net made, and drifted it, and caught two barrels of shad. As the experiment spake well, by my example and exertions, I worked so successfully on them, that in the course of three years, there were more than twenty French boats, catching three times over the necessary fish supply for the fishermen.

"This year, 100 French fishing boats have been counted drifting down the Bay, all fine and strong boats, sailing well; in fine, fully prepared for any storm.

"Before I finish with this inquiry, you must be told that no less than 15 or 20 large weirs have been put up every year, on the Shepody flats, and so on

every flat where the French used to put them up, even before the invasion of the Province by the British, and as early as the year 1749, when the fore-fathers of these French were dispersed, for refusing to take the oath of allegiance to the King of England.

"Secondly—As for the standing nets, I positively affirm, they are still worse than the weirs, for the loss of the large sized shad is greater than that of the small size in the weirs; this wants some explanation. When the tide comes in both Bays, of Fundy and Cumberland, shad will not be caught at all by weirs, and consequently lay their course till they reach the further end of the weir, towards the deep channel of the Bay, and thereby are safe on the flood tide; but on the ebb tide, all the shad which ventured on the flats along the Bay, will be stopped altogether, large and small, as I stated above.

"But with standing nets it is quite the reverse. Shad will be caught at once on the flood, as well as on the ebb tide, the meshes being all the time open for them. And here is the loss, I mean on the flood tide, for then the owners of these nets cannot save the fish, as they have to wait until the tide is all out. As you must allow, shad for the most part, are shaken off by the ebb tide, which keep these nets in a constant and strong motion. They fall down, are dragged away, and are a great loss to commerce. They become a treat for the sturgeons, and dog-fishes, these being numerous and strongly attracted to the upper part of the Bay by the lost fish, as the shad itself is attracted by the worms, which venture out of the muddy flats, heated by the July and August sun.

"I reiterate my suggestion, that both weirs and standing nets ought to be prohibited by law, as being destructive to shad, and very ruinous to our fisheries and commerce.

"4th. The mode of curing shad is this—after they are opened by the back, and their entrails taken off, they are thrown into a large open tub of fresh water, and are soaked therein, until all the blood about the back-bone is got out of it. Then they are taken out and put separately on the edge of a board, or horizontal fence poles, each side of the fish hanging down, on either side of the board or fence pole. When they are sufficiently freed from the water in which they have been steeped, they are then salted, and put in the shade in some fish-house, which almost every fisherman has built for that purpose.

"I am perfectly satisfied, that shad chiefly feed on the worms of our muddy flats, since they are found in the stomachs of the fish, and hardly any shrimp at all, as I am informed by the fishermen of my Parish. Besides, the shad is naturally fond of vermiculated food, and must be fonder of worms than of any other kind which have affinity with them. Moreover, to what sort of food would you ascribe that oily taste which we find in shad, as also that thick yellow oily matter which we find on the top of every barrel of shad, if not to the quality of their food, which I contend to be worms, and chiefly worms. Since then, they chiefly feed upon worms, and worms are very abundant on the muddy flats of the upper part of this Bay, I repeat again, that standing nets, and weirs, are destructive to our shad fishery, as they are an insurmountable obstacle to the growth of fish, that venture on the flats, in search of food. Such obstacle does not exist with drift-nets, as they must keep to the channel of the Bay, on account of their depth.

"I conclude with the necessity of your recommending to Government, the appointment of an intelligent and impartial Inspector of our Fisheries, having full power to regulate the size of meshes, the length and depth of nets, the quality and quantity of salt in every barrel of cured fish, &c. &c. &c.

J'ai l'honneur, Monsieur, &c.

FERDINAND GAUVREAU,
Priest Missionary.

M. H. Perley, Esquire."

In addition to the above interesting communication, the following letter has been received from R. B. Chapman, Esquire, M.P.P., who resides near the Bellevous Village, on the eastern bank of the Petitcodiac:—

"Dorchester, October 10, 1850.

"SIR,—I have received a copy of your circular respecting the fisheries, and regret that I had not the pleasure of an interview when you visited my house.

You are aware, that shad are the only fish taken in the Petitcodiac River. The number of boats employed the present season, on the eastern side of the river, is about 75, with probably, an average of 100 fathoms of net to each boat—also, one strong, active man, and sometimes a boy, to manage the same. The expense of the boat and net will not be less than £26; the boat, of course, will last for years, and the rope will last for four or five years; but it will require three nets to last two seasons. The average number of barrels to each boat, this season, will not exceed fifteen; price, 27s. 6d. per barrel.

"If any plan could be devised to preserve the nets, and make them last longer, a great benefit would be conferred on the fishermen, as some of them are about to abandon the fishery, in consequence of the heavy expense of nets.

"There are, certainly, defects in the mode of curing. Sometimes the fish remain too long, after they are taken out of the water, before they are cleaned; and sometimes, they are soaked too long in fresh water before being salted. It is quite certain, that the sooner shad are salted after being caught, the better they are; and they ought never to be repacked. You are aware, that the shad taken at the head of the Bay are, perhaps, the best in the world; yet there is a time, in the latter part of July, and beginning of August, when they are quite inferior, both in size and quality, to those taken at any other time during the season.

"You will doubtless have had an opportunity, during your tour through this part of the Province, of conversing with persons who have long been engaged in the shad fishery, from whom you have received more information than I am capable of communicating. Your inquiry, my dear sir, is an important one; our waters abound with fish of all kinds, and yet we are strangely apathetic in prosecuting so important a source of wealth. That your inquiry and Report may have the desired effect, is the sincere wish of

Your obedient servant,

R. B. CHAPMAN.

M. H. Perley, Esquire."

Between the mouth of the Memramcook River and Cape Maranguin, the shad fishery is carried on by weirs, and stake-nets. The settlers do not drift for shad; it takes too much time from farming, and they have no shelter for boats. Last year there were only three weirs; but nearly every settler had a string of stake-nets. From Red Head, below Dorchester, to Grand Anse ledge, there were 15 strings of nets; and at least 25 strings more from that ledge down to Cape Maranguin. The strings averaged about 100 fathoms each in length; the mesh, 4½ inches; and the net, 30 meshes deep. The stakes are placed 15 feet apart, on the mud-flats, and the nets are entirely dry at low water. Some fish mesh on the flood, but the greatest numbers are taken on the ebb tide. The fair average catch of each string of nets in Grand Anse, was stated to be 20 barrels during the season.

Mr. George Buck, an intelligent fisherman, who resides four miles below the Village of Dorchester, has fished there for shad during the last thirty years. He stated, that shad strike in at this place, from the 1st to the 15th June; they are then large, and pretty fair fish; the next run comes in the heat of summer, these are not so good. As the autumn advances, the fish grow better and fatter; those caught latest being the best. The shad come to these flats to feed, not to spawn; and Mr. Buck is of opinion, that the shad which ascend the Saint John in the spring, after spawning, go up the Bay to fatten. Whenever there is a large run of shad up the Saint John in the spring, there is always good fishing at Petitcodiac in the autumn. It is unusual to find any roe in shad, caught at this locality; it sometimes occurs, but that

is very seldom; he has often found slug-worms in the stomach of the shad, some of them nearly as large as a man's finger—these are now called "shad-worms." Mr. Buck usually catches 30 barrels of shad each season, in his string of nets; he exceeded that quantity last season, as on the 26th September his nets were still down. His nets are tarred, and they last nearly a whole season; he thinks it is the mud which does the mischief, and causes them to rot so quickly. Cotton thread takes the tar well, and therefore stands longest; herring twine fishes well, but only lasts a few weeks.

The mode of curing here, Mr. Buck described as follows:—He cleans the fish as quickly as possible; washes twice—drains quickly—and salts down, once for all. He uses generally about $1\frac{1}{2}$ bushels of salt to each barrel of shad; the past season he used 50 bushels of salt to 30 barrels of shad, and these fish will keep any length of time, anywhere. The necessity of a strict inspection was strongly urged by Mr. Buck, who expressed his anxious desire to employ, at that moment, an Inspector and cooper to pack his fish for exportation.

From Cape Maranguin to the head of Sackville Bay, on the New Brunswick side, the shad fishing is followed both by drift-nets and stake-nets. Each boat has usually 100 fathoms of drift-net; the mesh $4\frac{1}{2}$ to 5 inches, and the nets 60 meshes deep—the average catch during the last five years, has been about 20 barrels to each boat, during the season.

Mr. John Barnes of Sackville, who understands the shad-fishing of Sackville Bay exceedingly well, stated that he fishes both with drift and stake-nets; the latter are 30 to 40 meshes deep, and set on stakes, 15 feet apart, between high and low-water mark. He takes shad in his stake-nets on the ebb tide; the nets are therefore on the lower side of the stakes, fastened at top and bottom. If the tide runs strong the nets must be allowed to bag a little; but if it is not strong, they are better stretched tight. One set of stake-nets will not last during the season, as they rot out very soon—a new net of herring twine has been known to rot out in eleven days. No net will last more than a month, unless oiled with raw linseed oil, or tanned; tanning the net to be effective, must be repeated every week.

Mr. Barnes concurred in the opinion, that there are three distinct runs of shad, the first, and last, being by far the best fish. It is very rare, he said, to find any roe in shad, and when it was found, the fish was poor and thin, like the spring shad caught at St. John.

The usual mode of curing shad at Sackville, was thus described:—The fish are cleaned as soon as possible after being taken from the net; they are split, scraped, and washed, after which they are soaked a short time. A second scraping and soaking next takes place, when the fish are hung up to drain for half an hour, and then salted down once for all. Mr. Barnes does not approve of too much soaking; he thinks the fish should be washed sufficiently to take the blood out, as it is the blood does the mischief. A bushel of salt is not enough for a barrel of shad, unless they are for immediate use; a larger quantity is necessary, the fish are

intended for shipment, or to be kept for any length of time. The necessity of a rigid inspection was much insisted upon by Mr. Barnes, especially as regarded shad intended for exportation.

Sharks appear in Sackville Bay, at the end of August; one was taken there in September last, nine feet in length, by Mr. Boultenhouse. The greatest obstacle to shad fishing in Sackville Bay, arises from the southwest gales, which rush through this narrow part of the Bay of Fundy, as through a funnel, and occasionally blow with much violence; when these meet the ebb tide, they cause a very heavy sea, which puts fishing wholly out of the question.

Estimate of the quantity of Shad taken on the New Brunswick side of the Bay of Fundy, from Cape Enragé to the Nova Scotia Boundary, made up from local information, October, 1850.

LOCALITY.	Boats, weirs, &c.	Quantity caught.	Total number of barrels.
Shepody Bay,	8 boats, stake nets	25 brls. each,	200
Ditto,	and weirs,	..	200
Cape Demoiselle to Stoney Creek,	50 boats,	20 brls. each,	1000
Memramcook, (Acadian French)	100 boats,	15 brls. each,	1500
Dorchester to Cape Maranguin,	40 nets,	20 brls. each,	800
Cape Maranguin to Nova Scotia Boundary. ..	15 boats,	20 brls. each,	300
Ditto,	stake nets,	..	100
Total, barrels,			4,100

The value of pickled shad in October last, as stated by Mr. Chapman, was 27s. 6d. per barrel; at this rate, the value of the shad caught and cured in the upper part of the Bay of Fundy last season, was £5,637 10s.—This amount, large as it may appear for what has been considered one of the minor fisheries of the Bay, is believed to be even below the actual value. The quantity of fish, stated as having been caught, does not include the small shad caught below Cape Enragé, nor yet those fish caught in a desultory manner within the district indicated, and consumed immediately by the inhabitants.

This fishery may be said to have commenced ten years since, when drifting for sea shad, at Petitcodiac, was introduced by the Rev. Mr. Gauvreau, under the circumstances mentioned in his letter. It may be rendered yet more valuable than at present, by an improved system of cure, and careful inspection; while the quantity of fish caught may be greatly increased, by proper regulations and judicious management.

The Salmon Fishery of the Petitcodiac River.

Although the lower part of this river, so far as the tide-way extends, is excessively muddy, yet above the tide, its waters are bright, and ripple gently over a gravelly bed, forming an almost constant succession of pools and rapids. Great numbers of salmon, generally of small size, formerly frequented this river; but latterly, owing to the unmerciful and cruel manner in which this fish has been hunted and persecuted, as well in the tide-way as above it, they have greatly diminished, and are at present in a fair way of being extirpated altogether.

In August 1848, the writer was on the upper part of this river, near the head of the tide, and at night, saw thirty five hay-makers making war upon a few salmon which had reached a pool the day previous. They built large fires upon the banks, and entering the pool, some wading, and others in canoes with torches, each man armed with a pitchfork, they pursued and mangled the fish until the whole were killed. At a pool farther up the river, the next day, the writer saw a boy in a canoe, with a pitchfork, pursuing a solitary salmon in a shallow pool, from which it could not escape; the fish was killed at last, but so mutilated as to be almost worthless. Everywhere on the river, the same destruction appeared to be going on; it was said by the inhabitants that no regard was paid to season, but that salmon were always taken, whenever and however they could be had.

Unless it be intended, that the salmon fishery of the Petitcodiac shall be allowed to cease altogether, as a thing of no value, it is absolutely necessary, that steps should be taken to restrain this wanton destruction of fine fish. If the river is not put under some superintendence, to restrain the destructive inclination of the sojourners on its banks, it cannot be expected, but that the salmon fishery of the Petitcodiac will shortly be remembered as a fishery that has been, but which no longer exists.

THE NOVA SCOTIA SHORE.

Cumberland Bay.

In this Bay, the shad fishery is also prosecuted to a very considerable extent, and of such value is it considered, that a special Act of the Legislature of Nova Scotia was passed in 1840, for its regulation. It is set forth in the preamble to this Act, that the shad fishery in the County of Cumberland is becoming of importance, and difficulties and disputes have arisen, and are likely to arise, respecting the setting of nets, and the use of drift-nets; to prevent which, it is enacted that it shall be lawful for the Justices in Session, to make rules and regulations for the setting of nets, the placing of weirs, the number of nets to be allowed to one person, the distance they shall be set apart, and whether drift-nets shall or shall not be allowed. The Act also provides for the appointment of Overseers of the Shad Fishery, each overseer to be assigned a particular district; and for every net or weir, set or placed within that district, the overseer is authorized to receive, from the owner of the same, the sum of five shillings, as compensation for his services in enforcing the fishery regulations.

Under this Act, the Justices have established certain rules and regulations, a copy of which will be found in the Appendix to this Report.

After crossing the Missaguash River, (the boundary between New Brunswick and Nova Scotia,) the writer proceeded to Amherst, passing the La Planche River, and subsequently visiting the Napan and Macan Rivers. At Amherst, much information

as to the shad fishery was communicated by Joshua Chandler, Esq., High Sheriff of Cumberland, R. B. Dickey, Esq., and Mr. Gordon, Controller of Customs; at the rivers, the writer met Mr. Corbett and Peter Niles, both experienced fishermen, and Mr. Coates, an overseer of the fishery. From these several parties the following information was obtained.

There are no weirs on the Nova Scotia side of Cumberland Bay, nor are any drift-nets used on that side; the people are opposed to drifting. The only mode of fishing for shad is by stake-nets on the mud flats. Each net is 12 fathoms long, from 28 to 40 meshes deep, according to situation; the mesh is from $4\frac{1}{2}$ to 5 inches. Shad have been taken here as early as the 8th of June; but the fishery usually commences on the first of July, and continues until the 1st of October, although fish have been taken at the end of October, when ice was making. From the Missaguash to the La Planche River, there are 12 nets, which, on the average, take 5 barrels each, during the season. From the La Planche to Barron's Point, (so named from Sir Edward Barron, the grantee of that part of Amherst,) there are 60 nets, the average catch of which is now 10 barrels annually. It was stated by all the fishermen, that the fishing was falling off very much of late, and the average catch the last two seasons was only half of what it was seven years previously. This they attributed to the great increase of drift-nets used in the Bay, by the inhabitants of New Brunswick; when the wind is so high that the boats cannot go out to drift, then they always get twice as many as when the drifting is taking place.

The nets are so arranged, on the lower side of the stakes, as to form a bag on the ebb tide, when most of the fish are caught; but many fish strike the net on the flood, and being shaken out by the strong motion on the ebb, (as described by the Rev. Mr. Gauvreau,) they are scattered over the flats, and much "mud-larking" takes place before they are all gathered, which sometimes does not happen, and the fish are wholly lost.

There is no inspection of fish in the County of Cumberland, and they are sold entirely on the character of the curer. The mode of curing was described as being the same as that in use at Sackville, but they are soaked longer; a bushel of salt is the quantity generally considered sufficient for a barrel of shad. In the writer's opinion, the fish are injured here by too much soaking before being salted; and the quantity of salt used in curing, is not sufficient to preserve the fish for any length of time. Liverpool salt is generally used, which is much inferior to that from St. Ube's, or Turk's Island, for curing fish.

It was agreed by all the fishermen here, that there were three distinct runs of fish during the season, as at Petitcodiac, the first and last being the best. It is very rare to find a shad with roe; the shad-worm and shrimps are frequently found in the stomachs of the shad, which left no doubt as to the nature of their food.

At Minudie, on the River Hebert, there is a valuable shad fishery; and it is asserted, that the fish caught there are fatter and much finer than any others in the Bay of Fundy. The fishing at

this place, and in Cumberland Bay generally, is described in the following letter from Amos Seaman, Esquire :—

"Minudie, 11th September, 1850.

"SIR,—In answer to your circular of 12th August, relative to the fisheries at the head of the Bay of Fundy, I beg leave to say, that I will furnish such information as is in my power, relative to the shad fishery, which is the only kind successfully followed, in the Bay and Rivers around here.

"It is only about fifteen years since any attention was paid to this business. At first, standing weirs were employed; but owing to the circumstance of large quantities of inferior and small fish being caught, the raising of the flats, and other undefinable causes, this mode has for some years been discontinued. The only methods now practised are by set-nets and drifting; by the latter, far the largest quantities are taken; sometimes may be seen in Dorchester Bay, and around the shores of Minudie, upwards of two hundred boats out at one time. The boats leave the place of rendezvous with the ebb tide, drift down the Bay until they meet the flood, and return with it to the place from whence they started. With favourable tides each boat will secure from 100 to 150 shad, with 80 to 100 fathoms of net. The fishing season commences in June, and terminates in September.

"When we consider the great number of nets that are set, almost every resident on the shores having one, and some four or more—besides others who come from miles inland to embark in the business—as well as the great number of boats constantly out drifting, it is not perhaps too much to say, that from five to six thousand barrels are caught and cured every season. When properly put up, in barrels of 200lbs. weight, with care in curing and packing—the fish being split down the belly, the back bone taken out, and the tail cut off, which is the method preferred by the American merchant, and now followed by many of our fishermen—these shad will command from nine to eleven dollars per barrel, in the American market; leaving from six dollars and a half to nine dollars and a half to the exporter, after duties and charges are deducted.

"It is but a very few years since any shad were prepared for shipment, the people who followed this fishery being content with securing sufficient for their own wants, and perhaps a barrel or two for their neighbours. But the fame of our shad went abroad, and some American merchants were induced to try them in their market; they were highly prized and sought after. From that time, exportations were yearly made, and have gone on steadily increasing. At the present time, there is a great demand for shad caught at the head of this Bay, as being of superior quality—much fatter and of more delicious flavour than any found on the American shores, or in the markets of the United States.

"This demand and encouragement, have had a wonderful effect in stimulating our fishermen to increased exertions, and greater care in curing, so that the fish may command the highest price, and sustain their character. That the supply is inexhaustible, is plain to every one; for, notwithstanding the number of persons employed, and the means for capture have greatly increased within the last few years, there appears not the least diminution, in the quantity of fish—none complain. If the contemplated Railroad were once in operation, and the Canadian market, now shut to us by circuitous navigation, should be rendered easily accessible, a large field would be opened for our fisheries. The energies and enterprise of our fishermen would receive additional excitement, and the whole trade would flow in that direction, to avoid the heavy duty of one dollar per barrel, exacted by the American Government. We consider our shad fishery to be only in its infancy; and not a doubt can be entertained, that when a larger field is opened, and improvements introduced in the modes of capture and cure, that the trade will become extensive, of great importance, and highly lucrative.

"You will perceive, that all my observations have been confined to the shad fishery, in and around Minudie, and the neighbouring Bay of Dorchester, at the mouth of the Petitcodiac. The same fishery is carried on along the coast to Chignecto, and about the shores at Parrsboro', and no doubt equal quantities are caught there; but for more full information, I must refer you to persons in those localities.

"I have nothing to say as to other fisheries here, they being too insignificant to demand even a passing notice. With my desire, that the foregoing may be found useful and satisfactory, I have the honour, &c.

AMOS SEAMAN.

M. H. Perley, Esquire."

From Minudie down the coast toward Apple River, the shad fishery extends as far as Mill Creek, below which, the waters of the Bay become perfectly clear, and shad are not taken. In this distance are the extensive grindstone quarries of Mr. Seaman, at the South Joggins; two miles southwest from these quarries, are the Joggins coal-mines, now being worked by the General Mining Association of Nova Scotia. The coal is bituminous; the seam is four feet in thickness, with a dip of one foot in three; underneath this seam of coal, there is a bed of fire clay from two to three feet thick, and below that, another seam of coal, 18 inches thick, of very superior quality, but which at present, is not worked. About two miles farther down the coast, is the Ragged Reef, where very large grindstones are quarried, many of them six feet in diameter, and eight inches thick. Along this line of coast, the shores are quite perpendicular, and composed altogether of various sand stones of the coal measures, a fine section of which can be seen in sailing along the shore. At the South Joggins, there are numerous fossil trees in the cliffs, which are well described by Sir Charles Lyell, (who visited this locality a few years since) in the account of his first visit to North America. To the geologist, this place will be found highly interesting.

Not many fish are caught along this shore, the inhabitants being all engaged in mining coals, or quarrying grindstones. A few shad are taken at the Ragged Reef, where also, there is cod fishing early in summer, and again late in the season. Some haddock and pollack are likewise taken, and also a few hake; but dog-fish are complained of as being very abundant.

At day light on the 27th September, while standing in for this shore, the cutter fell in with a shad boat from Westcock, (Sackville) which had been out all night drifting for shad. There were fifty very large and fat shad in the boat, caught during the night; the fisherman stated, that two nights previously, the weather and the tides being favourable, he had caught 260 shad during a single night's fishing, 70 of which filled a barrel; his whole catch during the season was no less than 5000 fish, equal to 45 barrels. This boat had 175 fathoms of net, 55 meshes deep, the mesh $4\frac{1}{2}$ inches; the material, linen hank-thread, oiled with raw linseed oil, and the whole outfit was altogether superior. The owner said, that some schooners from Saint John, which had been up the Bay shad fishing, had failed, in consequence of having made their nets so very black with tar, that the fish saw them and would not mesh.

Off Apple River; some good cod are caught in June, and herrings are taken in July, with a mesh of $2\frac{1}{4}$ inches, very fine and fat; halibut of exceedingly large size are taken not far from the Light House during the summer, but no shad are caught at this place, and hake very rarely. Large quantities of smelts, and many small salmon occasionally enter the basin, but there are no

preparations for taking either. In consequence of a very violent storm, the cutter was obliged to remain two days in the inner harbour at Apple River, and during that time, great numbers of herring gulls were observed to be busily engaged in taking fish, which appeared to be in large schulls.

At the large rocks called the Sisters, about three miles below Apple River, there is very good fishing for cod during the summer; some boats come over from the New Brunswick shore every season to fish there. A schooner of 50 tons from Shepody, made a fare of cod in six weeks during last season; the residents complained bitterly of the damage done to the fishing ground, by the offal of the fish having been thrown overboard from this schooner upon it—a practice which is exceedingly destructive to the fisheries, wherever it occurs.

From the Sisters to Cape Chignecto, there is not much fishing, the coast being lofty, without shelter, and greatly exposed to southerly or westerly gales. Between Isle Au Haut and Cape Chignecto, there is a bank extending almost entirely across that channel, upon which there is good fishing the greater part of every summer. The residents of Advocate Harbour formerly fished to some extent upon this bank; but the want of boat shelter at Isle Au Haut, has induced them to discontinue it almost entirely.

The writer landed above Cape D'Or, at Fisherman's Cove, near Spencer's Island. At this place, there is fishing for cod, pollack, and haddock, commencing about the 10th of May every year; the best fishing is in June and July, and it altogether ceases in August. There are 25 fishing boats at this place, each boat 16 feet keel; the fishing is near the shore, and every family fishes, more or less. Early in the season, they catch a large herring, in a mesh of 2½ inches; as the season advances they take a herring that is smaller, but fatter, distinguished as "green-backs." These are caught in a mesh of 2 inches. At the end of July, or early in August, a small *herring* makes its appearance, described by the fishermen as being four or five inches in length, thickest at one-fourth of their length from the head, and tapering off to the tail like a smelt. What these fish are, it is impossible to say from the description given by the fishermen. Flounder fishing begins here about the first of June; but these fish are not in condition until August, after which they become fat and good.

From Spencer's Island to Cape Sharp, a distance of 20 miles, there is a wide sweep of coast, known on the charts as Greville Bay; there is good fishing inshore nearly the whole extent of this Bay, especially near Ratchford's River, Diligence River, Fox River, and Black Rock River. Inside Fox Point, and at the race off Cape Sharp, there is good pollack fishing; these fish appeared in great numbers, at these localities, during the past season; yet few were taken, owing to the inhabitants not being prepared.

At Black Rock River there are several brush-weirs for taking herrings; these first appear at the latter end of April, but the greatest abundance is at the end of May. The first herrings which arrive are spawning fish; they deposit such quantities of spawn,

that it can be shovelled up upon the beach. At the latter end of June, and during July, a smaller description of herrings come in, which are very fat; of these, large quantities have been seen, playing in the tide at a distance from the shore, but they do not approach sufficiently near to enter the weirs, and the inhabitants have no nets. These small fat herrings are followed by pollack in great numbers; and the pollack fishing is excellent in the vicinity of Cape Sharp, for about six weeks, ceasing at the end of August, with the departure of the herrings.

In West Bay, there is good cod fishing until the middle of June; and the fishermen mentioned the taking of halibut of such extraordinary size as to be almost incredible. Great quantities of flounders—or flukes—*plutessa limanda*—are taken along the coast in the autumn, which are first salted, and then dried and smoked.

It was stated at Black Rock Beach, that although large quantities of herrings had been taken in the weirs there during the season, yet the weir owners had no salt to cure them, and allowed all persons that pleased to take them away; and when this place was visited, on the 1st of October, it was stated by Richard Lank, a resident fisherman, that they had not a single herring in their houses for winter use. Fishing vessels from Saint John and Grand Manan formerly visited this place, bringing abundance of herring nets; but the inhabitants thought these nets injured the fishery, and by opposition and annoyance, succeeded in driving the fishermen away.

The Basin of Mines.

At Parrsboro', it was stated by James Ratchford, Esquire, that there are three runs of herring during the season; the first arrive about the 1st of June, heavy with roe, and the beaches are shortly after covered with spawn. The second run are smaller, but better fish; while the third run are still smaller, but very fat, by far the best fish of the season. The cod follow the herrings, and continue as long as they remain. Of late years, cod have greatly decreased in numbers, while haddock have been more abundant. Abreast the Village of Parrsboro' long-lines have been set for cod with much success, by an amateur fisherman, who lifted them three times a day during the season, and usually found them loaded with fish. There are no regular fishermen at this place, although during a certain portion of the spring and summer, herring fishing and line fishing might be prosecuted to some extent, and with considerable profit.

The coast from Parrsboro' to Economy Point was visited, and the information obtained from David M'Burney, Esq., of East River, (Five Islands,) Silas P. Crane, Esq., of Economy, and other persons on the coast, may be thus stated:—

On the northern shore of the Basin of Mines, the shad fishery begins at Herrington's River, to the eastward of Parrsboro' River, and extends along the coast to Port-a-Pique, a distance of 21 miles. The fishing is carried on both by weirs and drifting; in the whole distance there are about 20 brush-weirs. Between Graham's Head and Economy Point, the flats for about four miles,

were observed to have an almost unbroken continuance of these weirs, crescent shaped, the ends of the weirs touching each other.

Mr. Crane estimated the whole quantity of shad taken in this district, during the season, by drift-nets and weirs, at 1000 barrels. Drift-nets first came into use here about five years ago, since which the weirs have taken the small shad only. The fish taken here are of very good quality; but Mr. Crane said, he thought the Minudie shad a shade fatter and better.

The mode of curing shad here is as follows:—The fish are split down the back, cleaned, and washed in salt water; they are then struck in salt, in hogsheads; at the end of a fortnight, they are considered sufficiently struck, and are then packed in barrels for market. There is no inspection of fish, the chief Inspector at Halifax not having appointed any Deputies in this district. The practice of soaking and draining shad, is here deprecated, as tending to impoverish the fish, which it is contended can be sufficiently freed from blood and impurities, by cleanliness and care in splitting and dressing.

At Economy Point, Mr. Holliday has a fishing establishment for catching and curing shad, in connection with Messrs. Snow and Rich, the eminent fish merchants of Boston. As the Shad cured at this establishment are for the Boston market exclusively, they are split down the belly, the back bone taken out, and the head and tail cut off; they are then called "mess shad," and are worth, at Economy, 32s. 6d. per 200lbs. It was stated, that Mr. Holliday used nets with a mesh of $5\frac{1}{2}$ inches, the desire being to take the largest and finest shad only; his nets are 200 fathoms long, and drying frames are used to stretch them upon, after being in use.

Herrings also strike in on this coast, as at Cape Sharp and Parrsboro', but not in such quantities. Some cod are taken from early spring until 1st of June, and again in November and December, by lines attached to poles driven in the flats. Pollack do not go up the Basin beyond Five Islands, the waters being too muddy; basse were formerly abundant, but none are seen now, they having been destroyed by the weirs, and by nets set across the rivers. Many salmon are taken in Economy River, but they are of small size, rarely exceeding the weight of 4lbs.; all the rivers in this locality are frequented by these small salmon, in greater or less numbers. At Five Islands, and some other places along this coast, it was stated, that the inhabitants were rarely provided with a sufficiency of salt, when the herrings first came in the spring; and that numbers were lost and spoiled in consequence.

At Windsor, the writer obtained from Mr. James Burgess, a practical fisherman of much skill and intelligence, some very valuable information; from this, and his own observations on the southern side of the Basin of Mines, as well as from conversations with many fishermen there, the following account of the fisheries in that locality is compiled.

The taking of shad by drift-nets was begun in Windsor River, about twelve years ago. The fishing begins in each season, about

the 25th June, and continues until about the 10th of August, after which it begins to fail, and is not followed later, the number of fish caught being too few to be profitable. The fishermen drift from Avon Bridge down to Cape Blomidon, dropping down with the ebb, and returning with the flood; they drift both by night and by day, the water being excessively muddy, but as Blomidon is approached, the fishing is only by night, as the water there is clearer. At Windsor, the "shad-worm" is found upon the mud flats, but the shad are supposed to feed chiefly on shrimps, which are in great abundance and of fine quality; they are often found hanging upon the shad-nets, of large size, nearly as large as prawns. The shrimps leave the river in August, and the shad depart at the same time; it is thence inferred that the shad follow the shrimps to some other locality.

On the flats below Boot Island, in Windsor River, and thence down to Flat Island, there are standing nets in which shad are taken later in the season than by drifting. The quantity taken between the Town of Windsor and Horton Bluff is estimated at 1000 barrels annually, which, last season, were worth there, on the average, 32s. 6d. per barrel, as they are all good fish, and care is taken in curing them. The Windsor shad are split down the back, well washed, and salted at Sackville; thus dressed and cured, 110 fish fill a barrel. Last season they sold at Boston for \$9 per barrel, less by \$1 per barrel than if they had been dressed for the American market, as "mess shad," in the manner in which they are put up by Mr. Holliday, at Economy, for the Boston dealers.

The shad fishery is carried on to the eastward of Windsor, partly by drifting, but chiefly by stake-nets, on the wide spread flats in front of Cheverie; thence the fishing is continued to the Shubenacadie river, up which the spring shad ascend to the Shubenacadie lakes, for the purpose of spawning. During the past season, a stake-net was put up at Noel, between two and three miles in length, in which several thousand shad were taken during a single tide; this enormous net is owned in shares by a company, and such quantities were taken in it during the height of the fishing season, that the owners were obliged to work without ceasing, and even on the Sabbath, to preserve the vast numbers of fish it secured.

The drifts-nets in use at Windsor are 100 fathoms in length, 36 to 45 meshes deep; the mesh is from 4½ to 5 inches—it is being diminished yearly, in order to secure a greater number of fish. The expense arising from the rotting of the nets, after being a very short time in use, was matter of complaint at Windsor, as elsewhere; but it was found, that Mr. Burgess, during the past season, had, as matter of experiment, used a composition of his own devising and manufacture, which had effectually preserved his nets from rotting. This composition consisted of India rubber, dissolved in the ordinary burning fluid for lamps, until it became of the thickness of rich cream. To this solution, boiled linseed oil was added, in the proportion of a pint of oil to a gallon of the solution; the nets, made of 3 thread, herring twine, were simply passed through the solution, without being steeped in it, and were fully stretched out to dry. They dried in three days, and were then of a light reddish

colour, very nearly that of the muddy waters in which they were to be used. The nets thus prepared by Mr. Burgess were fished by him during the whole season of 1850; in October, they were examined by the writer, who, with the permission of Mr. Burgess, tested them thoroughly in every part. They were found perfectly sound and strong, fully sufficient for fishing another year.

This mixture having been mentioned by the writer to Dr. Charles T. Jackson, the celebrated chemist of Boston, its preservative qualities were at once admitted by him; but he said, that something much better, and less expensive, might probably be found by a few scientific experiments. The preservation of shad nets from sudden decay, is matter of very great importance to the fishery, not only as regulating its extent, but also the profits to be derived from it. No greater boon could be conferred upon the shad fishers of Cumberland Bay, than the invention of a cheap composition, that would prevent their nets from rotting, and permit their use until fairly worn out.

The practice of drying nets upon the grass was reprobated by Mr. Burgess, as highly injurious under any circumstances; in his opinion, all nets will last longer if stretched on proper drying frames, after being in use.

Salmon ascend the Avon, and its tributaries, in considerable numbers; many of the smaller size are taken in the shad nets, but the larger fish break directly through, the thread not being sufficient to retain them. The spring shad do not go up the Avon to spawn, nor has any roe been found in the shad caught there.

Great numbers of gaspereau every spring ascend the Shubenacadie, the Avon, the Horton, and Cornwallis Rivers to spawn.—Those taken in the Avon, are large but poor; in the other rivers, they are much smaller, but thicker and fatter. In the weirs, on the flats below Windsor, small fish, called "shiners," are frequently taken; these are a little fish, shaped like the gaspereau, very silvery on the belly, and very fat—they are only used as a pan-fish, and are excellent when eaten fresh.

At Pereau, just below Habitant River, a description of very small, but very fat fish, not unlike herrings, are taken in August. The oil from them stains the hands, and they are so unctuous, that they are very difficult to cure. They are often sold fresh from the weirs, at tenpence per bushel; but cartloads are frequently used to manure the land. The fishermen are decidedly of opinion, that they are not young herrings, but a distinct fish; when taken they are full of roe, and ready for spawning. The writer had not an opportunity of seeing any of these fish, and is therefore unable to class them. It is quite possible they may prove to be sardines, some specimens of which have been occasionally caught in the Bay of Fundy.

Cod are frequently taken at the mouth of the Avon, by single lines attached to stakes. Hake are said to be abundant in that part of the Basin of Mines, between the mouth of Cornwallis River, and Cape Blomidon; they appear about the 1st of August, and may be taken during the rest of the season, in seven fathoms water.

Smelts ascend all the rivers in this locality, at the close of winter, in almost miraculous abundance. Basse were very plenty formerly, but are seldom seen now, having been thinned off by the weirs, and other contrivances. Tons of eels may be taken at any time during the season; one fisherman said, he had seen a stream of eels, each as thick as his arm, pass through a gap in a weir, during half an hour.

Very large sturgeon are also taken here; but sharks are only found on the northern side of the Basin, where the water is less muddy; they are there taken of large size. Mr. Burgess had the tail of one, caught there, of the "thresher" species, which measured 3 feet across; this fish was probably 8 feet in length.

It was complained by the fishermen, that spring-nets were used at the Cornwallis River, and Habitant River, which, they said, destroyed great quantities of fish of all kinds; this is a matter for inquiry by the authorities of Nova Scotia.

The South Shore of the Bay of Fundy.

To the southward of Cape Split, is Scotch Bay, a wide, open roadstead, with extensive mud-flats at its upper extreme. Considerable quantities of shad are taken on these flats, chiefly in weirs; but a large seine was also used, of which complaint was made, as being injurious to the fisheries, by taking numbers of small fish of every description. Here the shad fishery ceases on the southern shore of the Bay of Fundy, and the geological character of the coast changes. The bold and rugged cliffs of the south shore consist chiefly of *trap rocks*.

From Black Rock down to Brier Island, along the whole south shore, there are three fishing banks or ledges, lying parallel to the shore, outside each other; their respective distances from the coast, have acquired for them the designations of the three mile ledge—the five mile ledge—and the nine mile ledge. On these ledges, there are 60 fathoms of water, but on the crown of each ledge, 30 fathoms only. The 3 mile ledge, and the 5 mile ledge, extend quite down to Brier Island; but the 9 mile ledge can only be traced down the Bay, about 14 miles below Digby Gut, abreast of Trout Cove, where it ends in deep water. Below Digby Gut, the 3 mile ledge and 5 mile ledge are composed of hard gravel and red clay; above the 9 mile ledge, the 3 mile ledge has a rough, rocky bottom, on which anchors are frequently lost. Each of these ledges is about a mile in width, the outer one something more; between them the bottom is soft mud.

In April, the small rook cod strike in on the south shore, which they follow up to Cape Split, whence they cross to the New Brunswick side of the bay. This is the opinion of the Yankee fishermen, who follow them at that season, fishing close in shore; and with them, they take many halibut of large size. On the ledges, the best fishing is in June and July; but the fishing continues until the end of September. The cod taken on the ledges, in June and July, are well fed fish, 30 of which, on the average, will make a quintal. Pollack strike in generally during July; but the past season they made their appearance in May; the fishing for them

usually lasts until the end of September—their average size is 40 to the quintal.

On the ledges, line-fishing on the bottom can only be followed on the "slacks" of the tide; during the run of the tide, the fishermen employ themselves in taking pollack by trailing near the surface. Large hake are often taken on the ledges, with the cod; thirty of them will make a quintal. It is supposed, that these hake feed upon the soft bottom between the ledges, it being such as hake are usually found upon, and that they venture occasionally upon the ledges, or are in the act of crossing them, when taken.

Annapolis Basin.

In this beautiful Basin, long celebrated for its fisheries, cod, pollack, hake, haddock, and halibut, are taken, nearly all the year round; and here also are caught those delicious small herrings, which, when smoked, are known everywhere as "Digby Chickens." Small salmon ascend the Annapolis River, and its branches; shad are taken in the Basin, in July; smelts are exceedingly abundant in the spring; flounders are taken during the whole summer; cod are best in the autumn; mackerel frequently enter during the season, and are caught in the herring weirs; eels may be caught in any quantity; lobsters are found in various parts of the Basin; clams are to be had everywhere on the flats, and the American fishermen frequently land to dig them for bait; on Bear Island Bar, there are extensive beds of large scallops; shrimps abound in the Gut, where numbers of porpoises are shot by the Indians, while chasing the small herrings.

The principal fishery, however, is that for the small herrings to be cured by smoking, which are taken altogether in brush-weirs, not exceeding 8 feet in height; these are renewed every season, the ice usually carrying away the greater portion of them, at the close of the winter. The weirs on the Clements side of the Basin were visited by the writer, and the following information was there obtained, chiefly from Mr. Simon Wm. Riley of Annapolis, Messrs. Ditmars, and Wm. L. Ray, of Moose River, and Messrs. Ditmars of Bear River. The writer was assisted in obtaining information by George Millidge, Esq., of Annapolis, to whom his acknowledgements are due.

There were 47 weirs in Annapolis Basin in order for fishing during the past season; the catch of fish was unusually small, much smaller than it had been for years. Formerly the quantity of herrings cured in this Basin, was from 25,000 to 30,000 boxes annually; and twenty years ago, the average catch of every weir, was 2000 boxes each season. The whole quantity cured during the season of 1850, from the catch of all the weirs in the Basin, was supposed not to exceed 2000 boxes.

The small herrings enter the Basin at the last of May, but the great bodies of fish come in June and July; after passing through the Gut, they follow up the Granville shore to the Potter Settlement, near Annapolis, and thence strike over southwesterly, to the Clements side, directly across a large bar, or middle ground. On this bar, weirs were first put up about three years since, and

they are dry at very low spring-tides only ; some of the weir owners on the Clements shore, complained greatly of these weirs, which, they say, have broken up the schulls of fish, and rendered their weirs of no value, as they catch nothing. Mr. Ray said, that he formerly cured 1400 boxes of herrings every season, from the catch of his weir near Moose river ; the quantity gradually diminished to 400 boxes, and after the weirs were placed on the bar, it fell off to 260 boxes ; during the season of 1850, he did not get a single fish.

The first herrings of the season are of all sizes, from four inches in length, up to the largest. In June and July the schulls are of more uniform size ; the best fish for smoking, are 8 or 9 inches in length, a round, fat, handsome, herring—those less than 7 inches in length are not smoked.

It was alleged by Mr. Riley, of Annapolis, that about one half of all the fish caught in the weirs, are entirely lost ; almost all the weirs are dry at low water ; and he stated, that he had sometimes seen 300 or 400 barrels of small herrings taken during a single tide, left in the weir to spoil. The weirs are not opened on Saturday night ; and as the fish are not removed on Sunday, they are wholly lost ; some of the weirs have gates, but very many of them have not. It was further asserted by Mr. Riley, that the people were too lazy to remove the spoiled fish from their weirs, where the mud immediately made over them ; and in a good fishing season, the herrings would accumulate in a weir to the depth of two feet.—Some of the fish thus left to be buried in the mud last season, were bought by Mr. George Millidge, who carted up 200 barrels of them, to add to his compost heap ; and of this there was no doubt. But Mr. Riley's statements were denied by Mr. Ray, who said that the weir owners were very particular in clearing out their weirs, as if dead fish were left in them, the live ones would not enter, and no more would be caught. As it is quite certain that this fishery has fallen off to such an extent, as forebodes its ceasing altogether, the causes of its decay are suggested as a fit subject of inquiry, in Nova Scotia.

The Messrs. Ditmars are among the best curers in the Basin, and the mode in which they cure " Digby Chickens," is as follows :

The fish are scaled by being washed in bushel baskets with a square bottom, open like a coarse sieve, the men standing in the water up to their knees. The best fish have very few scales, and only half a bushel of them are taken in the basket at once ; they are then salted in large tubs, the salt being stirred through them by hand ; the quantity used, is half a bushel of salt, to two and a half barrels of fish, which are a tub full. They lay in salt 24 hours, and are then washed in fresh water to prevent their becoming " salt burnt," after which, they are strung on rods, with their heads all one way, and then hung up in the smoke-house. In Clements, the smoke houses are usually 30 feet square, with 14 feet posts, and a high roof ; no fish hang nearer the fire than seven feet, but the most careful curers do not hang them nearer than eight feet. Rock maple only is used for smoking ; when it cannot be procured, ash is used, being considered the best description of wood after rock maple. Beech and birch are deemed very inferior ; and it is thought

that prime "Digby Chickens," to possess the most perfect cure, and finest flavour, must be smoked with rock maple alone.

The process of smoking usually occupies 8 weeks ; and it requires the whole time of one person to watch the fire, and attend to the smoking, in which much judgment and great care are required. The smoke is usually made up at night-fall, unless the weather is warm and wet, during which time no fires are made. In fine weather, the smoke-houses are thrown open during the day to cool ; and the greatest care is taken, at all times, to keep down heat, and to render the smoke-houses as cool as possible, by numerous windows and openings. After being smoked, the fish are packed in boxes of the established size ; these are 18 inches long, 10 inches wide, and 8 inches deep, measured on the inside ; and there should be 12 rods, or 24 dozen of fish, in a box of prime herrings. If the fish are large and of the best quality, it requires some pressure to get this number into a box.

The differences between the modes of curing smoked herrings in Annapolis Basin, and that in use at Grand Manan and Campo Bello, consist principally in the greater care in washing the fish, and handling them in baskets, in small quantities ; in hanging them at a greater distance from the fire ; in the use of rock maple, almost exclusively, for smoking ; and in precautions taken to keep the smoke-houses cool at all times, while the process of smoking is going on.

In Ure's Dictionary of Arts, Manufactures and Mines, (Article "Putrefaction,") the process of curing provisions by smoking, is thus described :—

"SMOKING.—This process consists in exposing meat previously salted, or merely rubbed over with salt, to wood smoke, in an apartment so distant from the fire, as not to be unduly heated by it, and into which the smoke is admitted by flues at the bottom of the side walls. Here the meat combines with the empyreumatic acid of the smoke, and gets dried at the same time. The quality of the wood has an influence upon the quality and taste of the smoke-dried meat ; smoke from beech and oak, being preferable to that from fir and larch. Smoke from the twigs and berries of juniper, from rosemary, peppermint, &c. imparts somewhat of the aromatic flavour of these plants. A slow smoking with a slender fire, is preferable to a rapid and powerful one, as it allows the empyreumatic principles time to penetrate into the interior substance, without drying the outside too much. The process of smoking depends upon the action of the wood acid, or the creosote, volatilized with it."

The writer sincerely hopes, that from the information here given, with reference to the cure of smoked herrings in the Basin of Annapolis—which have hitherto borne the highest character, and obtained the highest price—the curers of Grand Manan and Campo Bello may draw some hints for their guidance, which will enable them hereafter to cure their fish equally well, and compete successfully with the "Digby Chickens."

Brier Island.

There is a large fishing population in the Brier Island fishing district, which includes Long Island, and part of the adjacent shore. From the best information that could be obtained, it was found that this district sends to the fisheries between 40 and 50

vessels, from 15 to 30 tons each, and upwards of 100 shore boats. The vessels have generally five men, and the boats two men each.

The cod fishing commences about the 20th of April, and continues until October. The first fishing is in shore, at the distance of half a mile to a mile and a half from the land; as the season advances, the fish go off into deep water, on the ledges. Pollack fishing, the next in importance, begins about the 15th of June, and lasts until the end of September; they are caught chiefly on "the rips" occasioned by the conflict of tides; those caught off Brier Island will average 35 or 40 to the quintal. In the latter part of the season, it requires the livers of 18 quintals of pollack only, to make a barrel of oil;—they must therefore be in fine condition, and prime fish.

Captain Laffoley, a native of Jersey, who has lived 32 years at Brier Island, stated to the writer, that the principal fisheries there, were those for cod and pollack. From that Island, the fisheries are prosecuted chiefly in chebacco-boats and shallops, from 16 to 24 tons burthen; in these the fish are split and salted on board.—In the spring, they fish off the western part of Brier Island, and thence to Cape St. Mary, in 15 to 60 fathoms water, with a tide of four knots. At mid-summer, they fish in 60 fathoms water, off Bear Cove, (Petite Passage) and thence to the "west-north-west bank," about 9 miles from the land, in 15 to 30 fathoms water, with a 6 knot tide. Of course, bottom fishing can only be prosecuted on "the slacks." During the summer, the fishing vessels sometimes run down to the Lurcher Ledge, 20 miles S.S.W. from Brier Island, and there fish in 15 to 30 fathoms water; at this ledge they rarely fail to get a full fare of cod in a few days, with favourable weather. On the fishing grounds mentioned, it is very rare to take either hake, or haddock, the bottoms being rocky and very rough. Halibut are very abundant, and of large size, especially upon a bank, 6 miles west of Brier Island. In summer, they are frequently a plague to fishermen, who shift their ground to avoid them, as they soon fill up a boat or small vessel. Captain Laffoley said, he had frequently seen halibut thrown on the beach as worthless, the fins and napes only being cut off; in spring much halibut is dried, but in summer it will not dry, as the flies spoil it at that season.

The fair average catch of a Brier Island fishing vessel, by line-fishing during the summer, is 100 quintals of fish to each man.

The mode of curing cod was thus described by captain Laffoley, as that generally followed by those who desired to make dried fish of the first quality. Before being split, the fish are washed; after being dressed and split, they are again washed. Cod are salted with half a bushel of salt to a quintal of fish; in summer not quite so much, as then they take salt quicker. They lay in salt five or six days, after which they are washed, and put in pile to drain for 24 hours; they are then put on the flakes to dry. After eight or nine days of fine weather, they are put in press-pile, in which they remain a week or more to sweat; they are then spread out again on a fine day, after which they are put once more in press-pile, in which they remain, until they are put into store, or shipped for

exportation. The cod caught in deep water off Brier Island, are exceedingly large, thick, well fed fish, of the best description. Some of these, cured by captain Laffoley, were inspected by the writer; they were 14 to the quintal, and could hardly be surpassed, either in the intrinsic excellence of the fish, or the admirable manner in which they were cured. If the fish caught in the Bay of Fundy were all cured in the same perfect manner, there would be no complaint of the want of markets; wherever they might be sent, they would be highly prized, and would at all times command remunerative prices.

The superiority of the large well fed cod, caught in the exceedingly cold and deep water of this part of the Bay of Fundy, especially for table use, is perfectly understood by the American fishermen, who resort to these grounds every season, in great numbers. Whole fleets of American fishing schooners appear off Brier Island in the spring as soon as the fishery commences; and it was complained by captain Laffoley, as also by other fishermen of the same locality, that these vessels disturb the fisheries in a variety of ways. If they cannot buy bait, these fishermen come in shore, set their own nets in the best places, and in fact, do just what they please, from mere superiority of numbers.

Herrings make their appearance about the 10th of April every season; these are the large spawning herrings, full of roe. At Brier Island, they are chiefly taken for bait; but at Long Island, and on the south shore up to Digby Gut, and for some distance above, many are taken in set nets and put up for sale. The nets generally used are 20 fathoms long, and 4 fathoms deep, with a mesh of $2\frac{1}{4}$ inches; these are set "off and on" shore, with grapnels and buoys.

The deep-sea herring fishery commences at the end of May; it is prosecuted in open day light, at half a mile, to six miles, from the land, with the same nets as in spring. Wherever the fish are seen to break, the nets are thrown over and allowed to remain in the water from five to ten minutes only; they are then taken in, cleared of fish, and again thrown over—this is continued as long as any fish can be taken. These are excellent herrings, and the fishing for them continues until the middle of July. After that time, the herrings strike over to the "rippings" of Grand Manan, where they continue to play during the rest of the season, these "rippings" abounding with shrimps in vast quantities. At the full and change of the moon, on the spring tides, the Brier Island fishing vessels go over to fish on the "rippings," as during those tides, the herrings are found there in greatest abundance.

No capelin has ever been seen at Brier Island; the shores are probably too rocky, and there is too much tide and surf. Squid (cuttle-fish—*sepia arctica*,) in some seasons, appear in August, and continue until October; they are by far the best bait, whenever they can be procured.

Israel Outhouse, a fisherman residing at Petite Passage, said the average catch of each man, in the shore boats, was 50 quintals of fish during the season. It was formerly much more, but has decreased of late years, owing, as he believes, to there being more

fishermen on the ground. The mackerel fishery, he says, was very uncertain; sometimes very good, and then none at all. A few only were taken during the past season; these were caught solely by line fishing on the trail, and not with jigs, in the American fashion, that mode of fishing not being generally understood or followed.

Mr. Payson, a magistrate of Brier Island, Mr. Robert Cutler Jones, and other gentlemen connected with this coast, are clearly of opinion, that the herring fishery might be prosecuted profitably, to a much greater extent than at present; and they agreed, that the cod taken off Brier Island, especially on the west-north-west bank, were probably as fine, well fed fish, as could possibly be found anywhere. Their excellence, they said, was fully admitted by the Americans, who came there to fish, expressly with the view of curing the cod they caught as "table fish," which bring a high price in their own market.

Mr. Benjamin H. Ruggles, of the Customs Department at Westport, Brier Island, furnished the following information as to the fisheries there. After describing the mode of curing cod, as already stated, Mr. Ruggles says:—

"Herrings, in general, are badly cured with us. The summer herrings, in particular, require much care; they should be split with a knife, scraped inside, and then passed through clear, cool water. Each fish should be separately filled with salt, and then packed away, not to be again repacked. None should be branded No. 1, unless cured in this manner; our fishermen are too eager for quantity, without regard to quality; but the law of this Province relative to the inspection of pickled fish, has caused more caution than heretofore.

"I believe that if no herrings were allowed to be entered at the Custom Houses in New Brunswick, but those legally cleared from some Custom House in this Province, it would prevent much imposition on the country people of New Brunswick. As it is, many herrings are clandestinely shipped from this Province and sold in New Brunswick, by which many are shamefully deceived, and the character of the fish greatly injured.

"I am well convinced, that if the Americans were allowed to fish in common with our fishermen, in consideration of our fish being admitted into the American market free of duty, it would be to our advantage. The Americans, at present, enjoy all the fishing grounds of any worth in the Bay of Fundy; and all they require is, the liberty of taking bait freely, of which they now procure a supply clandestinely. The American market, even with the present duty, is a rather better market for our best quality of dry fish, than can be found in the Provinces."

The following return of the boats, vessels, and men, belonging to the Parish of Westport, and employed in the fisheries, also the quantity of fish caught by them during the season of 1850, is furnished by Mr. Ruggles:—

Number and description of Boats and Vessels employed.	No. of Men.	Fair average catch per man of the products of the fisheries.	Qts. dry fish.	Bbls of herrings.	Brls of cod.
48 open boats, 2 men each,	90	70 quintals dry fish per man, 6 barrels herrings per do. 1 barrel oil per do.	6,720	576	96
26 decked vessels, from 10 to 30 tons, average 5 men to each,	130	90 quintal dry fish per man, 100 barrels herrings each vessel, 2 barrels oil per man,	11,700	2,600	260
6 vessels, in all 240 tons, one trip to the Magdalen Islands in the spring, for herrings,	30	350 barrels herrings each vessel,	..	2,100	
Total, men	256		Total, 18,420	5,276	356

The quantity of herrings smoked at Brier Island is small, not exceeding 500 boxes in a season.

The valuable and varied fisheries of St. Mary's Bay, were not inspected by the writer, whose inquiries in the Bay of Fundy, terminated at Brier Island.

GENERAL OBSERVATIONS.

THE CURE OF FISH.

It is quite clear from what has been previously stated, that all the fish taken in the Bay of Fundy, on the New Brunswick side, are very badly cured, whether pickled, dried, or smoked; and there is besides, great deficiency in the weight of barrels of pickled fish. In fact, no reliance whatever can be placed upon the inspection, or the weight of fish, although the barrels may bear the brand of an inspector regularly appointed. Besides being highly injurious to the interests of commerce, and to the advancement of the fisheries, it is highly discreditable to allow the laws to be thus openly evaded, and set at defiance.

The fish of the Bay of Fundy, when drawn from the water, are most excellent; they can scarcely be equalled, and certainly not surpassed elsewhere. Yet these admirable fish, either from ignorance, neglect, or laziness, or all combined, are so wretchedly cured, as only to be fit for the poorest markets, and are only sold because there is an insufficient supply of fish generally. While thousands of quintals of cod, caught in the Bay of Chaleur, and cured in the best manner on the shores of New Brunswick, have been shipped annually by the Jersey merchants, from Shippagan and Caraquet, to Brazil, Spain, Portugal, Sicily, and the Italian States, not a single quintal of fish has been sent from the Bay of Fundy to the markets of the Mediterranean, because none have been cured fit to send! And even of the second and third qualities of fish (distinguished as "Madeira" and "West India") the cure has been so indifferent, that their shipment to foreign markets has almost invariably been attended with loss to the exporter.

The following letter from Edward Allison, Esquire, a highly respectable merchant of this city, who is earnestly engaged in endeavours to open various branches of trade with distant foreign markets, explains clearly, and distinctly, the frauds to which exporters are subjected, and the losses accruing from badly cured fish:—

"Saint John, 20th November, 1850.

"SIR,—For several years past, our house has been among the principal exporters of fish—largely of alewives to the United States, and to a considerable extent, in cod, hake, haddock, &c. to the British and Foreign West Indies.

"Our cure of alewives has generally given satisfaction; but there is great dissatisfaction as to the inspection, and more especially as regards weight. This is of much consequence, and in seasons like the past, when fish were scarce, and more valuable than salt, there has been a general deficiency of fish in the barrel. In fact, with the exception of a few brands, no dependence as to character or weight is given by the inspection. I believe that the pickled fish are rarely, if ever, weighed prior to packing. An ordinary herring barrel, which is, I believe, 17 inches in the head, and 31 inches in the stave, will not contain

200lbs. of alewives, unless packed with great care and attention. The short weight of our alewives has already proved its effect upon their character, and in the West India markets they will not sell at full prices, *unless subject to being re-weighed*. We are aware of a serious deduction having to be submitted to, in a parcel shipped to Jamaica a few months since. They were sold at a good price, but on delivery were found so short of weight, that the deduction swept away all profit, especially as duties and expenses were paid as on a merchantable article. In re-packing a parcel also for the ship "Courier," for the market of Mauritius, we found scarcely a barrel to contain more than 160lbs. or 170lbs. of fish, although inspected, and branded, "No. 1, 200lbs." This is a serious evil, and must be remedied, or it will destroy the export trade in this article.

"We are told that the *empty barrels* are frequently branded prior to packing, and I am informed, they are so delivered at the cooperage. The Corporation should nominate only persons of character to fill the responsible office of inspector; on their being sworn in, they should take substantial bonds for the faithful performance of the duties, and deal rigidly with the delinquents. This we think the most salutary way to correct the serious evil which now exists. The Corporation should also take care to prosecute those who act as inspectors, without qualifying themselves. We could name those who have branded as inspectors this year, but who have not been licenced to do so, and they escape because not prosecuted.

"The codfish, hake, and haddock are certainly very inferior in quality to those shipped at Halifax, and I much fear that our exports of dry fish will not be an important item, until the quality is improved. This does not apply so much to the fish, as to the want of care, and attention to splitting, curing, and drying. I can safely say, I have not seen a *strictly merchantable fish*, since I have resided here—I mean such fish as are shipped from Halifax, Newfoundland, and Cape Breton. There the fish are so completely cured and dried, that many are shipped *in bulk*, to Europe and South America, and reach their destinations in good order; while the best we can get here, carefully screwed, rarely reach their destination in as good order as we would wish. The fault is—want of care in splitting and salting, but more especially in drying; we rarely get them so dry, as not to show pickle under the screw. This is not known elsewhere, and until our fish are better *made*, they are not fit to ship.

"During the past few years, we have made various shipments of fish to foreign ports, and with doubtful success, arising from their delivery in bad order; and we are almost discouraged from shipping dry fish, until we can purchase an article better prepared for a sea voyage.

Your obedient servant,

EDWARD ALLISON.

M. H. Perley, Esquire.

In a note to the writer, which accompanied the above letter, Mr. Allison says:—

"To contend with, there is much ignorance, carelessness, and unwillingness to learn, and it will require all your patience to accomplish the object you have in view. Much of the difficulty arises from local circumstances. Our fishermen have a choice of markets between St. John and Eastport, and if they get flour cheaper at the latter, it is an inducement to take their fish there. The evil is, that our people have no certain market; they go to-day to Eastport; to-morrow to Saint John, or elsewhere; in the meantime they get into a careless way of attending to their fish, not preparing them for any market *especially*, and not expecting to keep them long on hand, they do not dry them, as they should do."

The advantages which have arisen from the careful inspection of herrings in Scotland, and the great confidence given by the official brand affixed by the Officers of the Board of British Fisheries, to Scottish herrings in foreign markets, have been stated in the writer's preceding Reports. Since those Reports were presented, certain Resolutions passed by the Chamber of Commerce of Wick and Pulteney Town, and laid before Parliament, have been received, the substance of which may be thus briefly stated. The first



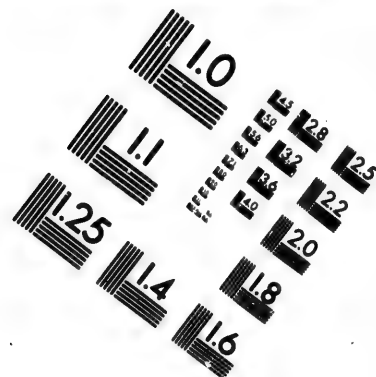
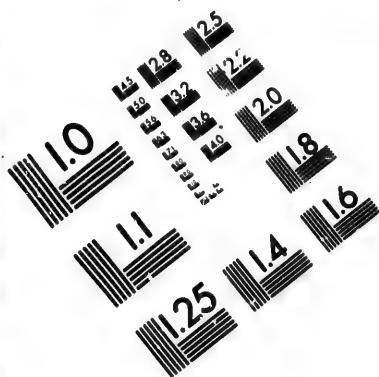
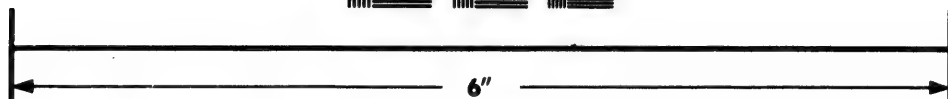
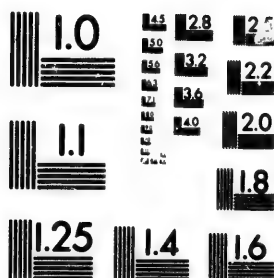


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resolution states, that before the establishment of the Fishery Board, the total quantity of herrings cured in Scotland amounted to about 90,000 barrels, which have been increased by the Board's exertions to 600,000 barrels, while the mode of curing, assorting, and putting up, or preparing, for various markets, had been improved in at least a similar ratio. The next resolution states, that the increase in the exportation of herrings to foreign markets could not have been arrived at in so short a time, but for the care taken in affixing the official brand, which serves as a passport in all foreign countries, freeing the trader from many expensive and vexatious regulations formerly enforced by foreign governments.

In consequence of the full reliance placed upon the official brand in Scotland, barrels of herrings bearing it, are transferred from hand to hand on the continent, with the utmost confidence, and transported to the most distant parts of Europe. In 1849, it was represented to the Fishery Board by the most influential merchants of different cities on the continent, that the large commercial dealings in which they engage with Great Britain for herrings, are undertaken and maintained upon the Government Brand, and that nearer markets would be resorted to, but for this attestation of quality stamped upon British herrings.

FOREIGN MARKETS FOR FISH.

As a knowledge of the markets for fish properly cured, is matter of great importance, the writer has been at some pains to acquire information as to the amount of duties and restrictions in Europe and America, which is here submitted.

A large proportion of the pickled herrings of Scotland go to Prussia, and the States under the Germanic Union of Customs; this is in consequence of the low duty. In the Germanic Union, the duty is 3s. sterling per barrel on salted herrings, and 1s. per barrel on smoked herrings; the quantity of Scotch herrings sent there annually is 150,000 barrels.

Austria, an adjoining country, to which there is easy access from Prussia, probably receives some of the British herrings; but the duty there is 4s. sterling per barrel, besides a transit duty of 1s. 6d. per barrel on all herrings passing through Prussia, to Austria or Poland. In consequence of these duties, British herrings, instead of becoming a staple export to Austria, as they ought to be, to the Catholic population of that large empire, are reserved as objects of luxury for the higher classes. The loss of a direct trade with Austria, deprives the British merchant of a rich market, which would carry off many thousand barrels of herrings.

Russia is another country to which a large export of herrings might be made, but a heavy *ad-valorem* duty is assessed upon them, the value being calculated from the first imports of the season, which bring an extravagant price. In Russia, also, fish are exposed to the injurious practice of *braacking*, which consist in opening the barrels, and removing the contents to inspect them.

In France, the duties on the importation of fish are as follows:—Foreign fish by French vessels, per 100 killograms, 40 francs, or £1 12 6 sterling; if imported in foreign vessels, or by land,

44 francs, or £1 15 2 sterling. These high duties entirely exclude British fish from the French market.

In Holland, the importation of all kinds of salt fish is prohibited.

In Belgium, the duties on British fish of every kind vary with the season at which the importation takes place, as also whether imported in a British or foreign vessel; but all the duties are so high as to exclude herrings and dried fish.

No British fish have been sent to Sweden or Denmark; the reason for this is not ascertained, but the extensive fisheries of Norway preclude the hope of a market in that quarter.

Smoked herrings are sent from Scotland to Geneva, Leghorn, Naples, Sicily, Venice and Trieste. In Naples and Sicily, the duty is estimated as 10s. per barrel, which added to the freight, renders the article a luxury, and keeps it from the greater part of the population.

Imports of British fish, on a small scale, are received in Sardinia, Tuscany, the Roman States, Greece, and the Ottoman Empire, with all of which, a trade of some extent might be established, but for the uniform system of high duties kept up in each.

One or two vessels are cleared annually, at St. Johns, Newfoundland, with dried fish for the Ionian Islands, and for Egypt; but of the value of the trade in those quarters, no exact information has been obtained.

In Portugal, the duty on cured fish is fixed at 1,600 reis, or about 9s. sterling per quintal. The object of this high duty was, to protect a fishing company whose operations have failed, and it is now urged, that Portugal ought to relax this duty, and allow the admission of British fish, on terms in accordance with the reciprocal good relations which subsist between Portugal and Great Britain, as to other articles of general commerce.

In Spain, foreign fish of all kinds, fresh, salted, or dried, except codfish, and stockfish, are prohibited. If these are imported in the vessels of Spain, a duty of 30 per cent. is charged; if in foreign vessels, the duty is 40 per cent., and this difference gives the carrying trade to the Spanish vessels. Great numbers of Spanish vessels resort annually to Newfoundland for cargoes of dry fish, and some of these vessels have also visited Halifax for the same purpose.—But none of the vessels of Spain have yet visited the Ports of New Brunswick, although the fish caught near its shores are equally as good as those of Newfoundland or Nova Scotia—their cure is so bad, that they are altogether unfit for the market of Spain.

With the Spanish Islands of Cuba and Porto Rico, an extensive trade might be carried on in fish, in return for tropical products, if the fish of New Brunswick were properly cured and dried to stand the climate, and give satisfaction to the consumers. The writer has procured from Washington, translations of the several tariffs of duties levied on fish, in Cuba and Porto Rico, from which it appears there are four separate rates. The lowest rate is on Spanish fish, imported direct in a Spanish vessel; the next, on foreign fish imported from Spain in a Spanish vessel; the third rate, is on fish imported direct from foreign countries in a Spanish vessel; and the fourth and highest rate, is on foreign fish, imported in a foreign

vessel. Under the last of these rates, pickled herrings are subject to a duty of $33\frac{1}{2}$ per cent, the value being established at an uniform rate of \$4.50 per barrel; the amount of duty is therefore \$1.52 per barrel. Dried fish of all kinds pay a duty of $27\frac{1}{2}$ per cent., the value being fixed at \$3.50 per quintal of 100 lbs.; the duty is therefore 97 cents per 100 lbs. When foreign caught herrings and dried fish, are imported in a Spanish vessel, they pay rates of duty amounting to \$1.07 per barrel on herrings, and 69 cents per 100lb on dried fish. If vessels load a full cargo of produce at any of the ports of Cuba or Porto Rico, an allowance of one-fifth is deducted from the duty on the inward cargo. The tonnage duty on foreign vessels is 77 cents per ton; but if they load with full cargoes of molasses, they are free from the tonnage duty.

Some of the badly cured fish, mentioned by Mr. Allison, which were shipped to Cuba last season, having been sold there, the following is furnished as the account of sales, dated Matanzas November 26, 1850:—

<i>Sales,</i>			
50 drums fish, weighing 22,005lb, sold at \$2 $\frac{1}{2}$,	\$605	1	
<i>Charges,</i>			
Note of Duties,	\$2	1	
Duties on 22,000lb, at \$3 $\frac{1}{2}$,	217	5	
Balanza—1 per cent. on Duty,	2	1	
Freight per Bill of Lading,	58	2 $\frac{1}{2}$	
Labour, weighing, and delivering,	10	0	
Commission, 5 per cent on \$605 1,	50	2	
			\$320 3 $\frac{1}{2}$
Net proceeds,	\$234	5 $\frac{1}{2}$	

In Brazil, the duty on dried cod is 2.500 reis the quintal of 100lbs; on other fish, the duty is 25 per cent. on their valuation. At Pernambuco, on the 21st October, 1850, the price of dried cod was 10 milreas 200 reis the 100lbs. The exchange was then at 28 $\frac{1}{2}$ pence sterling the milrea; consequently the price of dried cod was equal to £1 4 11 sterling per 100lb, and the duty 5s. 11d. on the same. The milrea is an imaginary currency, the value of which is governed by the exchange on London, and fluctuates accordingly.

In the United States, all fish pay a duty of 20 per cent. *ad valorem*, under the tariff of 1846. Besides the markets for fish in the seaboard Cities of the Union, there is a large and growing demand for fish in those States which border on the Great Lakes, and which may be supplied through Canada, by the Saint Lawrence. There would seem to be an almost unlimited demand for pickled herrings, as well in those States as in Canada West, if caught in proper season, and well cured; when sufficient care in these respects is taken, the rapidly increasing population of the vast fertile districts of the West, near the Great Lakes, whether Canadian or American, will long continue to offer a sure and profitable market for the products of the fisheries.

The Honorable Commissioners of the Board of British Fisheries having intimated their readiness to furnish information, the writer applied to them for a statement of the prices of herrings and dried

fish in Scotland, with the view of comparing them with the prices obtained in New Brunswick. In reply to the application, the following letter was received :—

" Board of British Fisheries,
Edinburgh, 2d January, 1851.

" Sir,—I duly received your letter of 19th November, 1850, requesting two copies of Captain Washington's Report on Fishing Boats, and also a statement of the average prices of pickled herrings, and dried and pickled cod in Scotland; and having laid the same before the Honorable the Commissioners of the Board, I have by their directions forwarded to you by mail, the two Reports in question. I now beg to subjoin a statement of the prices required by you, which have been taken in the month of September, and for the five years from 1846 to 1850, both inclusive.

" The Commissioners have desired me to return you their thanks for the promise of sending them a copy of your Report, when published.

I have the honor, &c.

B. F. PRIMROSE, Secretary.

M. H. Perley, Esquire."

Prices of Herrings from the Leith Prices current.

				White Her'gs, p. bbl.	Red Her'gs, p. bbl.
September	1846,	..	..	14s. to 18s.	16s. to 18s.
"	1847,	..	..	20s. to 22s.	20s. to 22s.
"	1841,	..	..	17s. to 19s.	17s. to 19s.
"	1849,	..	..	10s. to 17s.	6s. to 16s.
"	1850,	..	..	15s. to 18s.	14s. to 16s.

Prices of Dried Cod Fish, from private information.

September	1846,	..	..	average	15s. per Cwt.
"	1847,	..	..	do.	14s. do.
"	1848,	..	..	do.	14s. do.
"	1849,	..	..	do.	13s. do.
"	1850,	..	..	do.	15s. do.

Dried ling fish may be quoted 1s. per cwt. higher than the above.

The fish cured at the Stations, agreeably to the Board's printed directions, and punched by its officers, were sold and shipped for the Spanish market, at prices from 7 to 10 per cent. higher than the above quotations. Pickled cod-fish per barrel sells generally from 18s to 24s. London is the principal market for this article; and when the barrels are inspected and branded by the Board's officers, they sell from 25s. to 40s. per barrel.

B. F. PRIMROSE, Secretary.

The Island of Jersey presents a market for pickled herrings. A parcel of the "Quoddy Herrings" shipped from Campo Bello, netted the shipper 22s. 6d. sterling per barrel. There are no duties in Jersey, and the port charges are very low.

FISH BARRELS.

In connection with the question of foreign markets, the quality of the barrels in which pickled fish ought to be shipped, is very material. In Scotland, heretofore, barrels of hard wood only have been permitted; none other could be used for packing pickled fish. But during the year 1849, the Board of Fisheries arrived at the conclusion, that larch (hacmatac) was well adapted for the making of herring barrels. In their Report presented to Parliament in 1850, the Commissioners say, that experiments have been made by them, on the kinds of wood, suitable for herring barrels. The herrings and the barrels which were the subject of these experiments, were sent by long sea and land journies to different places on the

Continent; they were exposed to much rough usage, and great changes of climate—some were sent far up the Mediterranean. These experiments have proved, that larch wood may be safely used for barrels of pickled herrings, and that it is equal to the hard wood of which barrels are generally made; whilst ordinary fir is quite unsuitable, and its introduction would be highly prejudicial to the sale of herrings abroad. The experiments were so decisive, that the Commissioners have issued instructions admitting larch wood in the making of barrels, but continuing a strict prohibition of fir.

ALLOWANCES, OR BOUNTIES, TO AMERICAN FISHING VESSELS.

In order to obtain correct information as to the nature and extent of the allowances, or bounties, paid to American fishing vessels, the writer made application at the Boston Custom House, where large sums are paid annually to fishermen, and was kindly and promptly furnished by William A. Wellman, Esq., the Assistant Collector of the Port, with the following letter:—

*" Custom House, Boston,
Collector's Office, 14th January, 1851.*

"SIR,—The Statutes under which we pay allowances or bounties to fishing vessels, are scattered through the various volumes of the Acts of Congress from 1793 to 1835; but they may be readily found in Little and Brown's edition of the Public Statutes, published in 1845.

"Allowances are paid annually, on the last day of December, to vessels employed during the fishing season, which is accounted to be, from the last day of February, to the last day of November, *vide* Act of March 3, 1819.

"By the Act of 1819, chapter 212, we allow to every vessel of 5 tons, and not exceeding 30 tons burthen, \$3.50 per ton; above 30 tons, \$4.00 per ton; above 30 tons, with a crew of 20 and not less than 10 persons, and employed not less than three and a half months, \$3.50 per ton—the bounty on any one vessel not to exceed \$360. Vessels more than 5 tons and less than 20 tons, must land 12 quintals of fish per ton, during the season.

"The Act of 1824, chapter 152, prescribes how vessels wrecked may obtain the bounty in certain cases.

"The Act of 1813, chapter 2, requires the Skipper of each vessel, before proceeding on a voyage, to make an agreement with the fishermen.

"The regulations for fishing vessels to touch and trade at foreign ports, &c., are prescribed in the 21st section of the Act 1793, chap. 99.

"The oath of the Master, as to the time the vessel has been actually employed in the fisheries during the season, is prescribed by the Act of 29th July, 1813.

"By paying monthly wages in money, in lieu of dividing the fish, or the proceeds of the fishing voyage, in the proportions specified by law, the agreement is violated, and the bounty is forfeited. This, by decision of the Treasury Department, 24th February, 1847, confirmed by the Secretary of the Treasury, January 21, 1836.

"A vessel, to be entitled to the bounty, must be actually employed at sea, in the cod fisheries, a certain specified time, and must dry-cure the fish, *vide* Act July 29, 1813.

"The cod fishery and mackerel fishery are each a trade and employment, or business, and since the Act of 1828, chap. 108, the mackerel fishery cannot be lawfully carried on under a licence for the cod fishery.

"I have thus given you a summary of the various laws regulating our fishery allowances; but we have voluminous instructions issued by the Treasury Department, from time to time, to meet the questions presented by those claiming bounty. If there are other particular points not alluded to, I will most cheerfully point them out, if you will indicate them.

"We pay at this office annually, about the sum of \$225,000 for fishing bounties. The business is one in which I take a great interest, and when your Report is published, I shall hope to receive a copy of it.

Your obedient servant.

WM. A. WELLMAN, *Ass't Collector.*

M. H. Perley, Esquire."

It has been stated to the writer, by persons of standing in the United States, that the allowances to fishing vessels are continued, on the ground that fishermen are entitled to a drawback of the heavy duties which they pay on salt, and their outfit for the fisheries generally, besides some compensation for the increased cost of their vessels, arising from the high duties on iron, cordage, canvas, and other articles used in building and fitting them out—such increased cost amounting to ten dollars per ton more than the cost of vessels of similar class, and equal description, built and fitted out in New Brunswick.

The regulations for dividing the proceeds of the fishing voyage, instead of paying the crew monthly wages, is intended to compel the crew to catch fish on the voyage, instead of idling away the prescribed time, which the Yankee fishermen call "fishing for the bounty." But if the American fishermen, whom the writer met on the coast are to be believed, this regulation is constantly set at nought or evaded, monthly wages being paid by a large proportion of the vessels. With the whole system of the American fishing bounties, there appears to co-exist an organized system of frauds; and the voluminous instructions of the Treasury Department, issued from time to time, to meet those cases, clearly prove, that notwithstanding all the care and caution of the United States Treasury Department, and all the vigilance and astuteness of its many excellent officers, vast sums of money go annually into the pockets of unscrupulous men, while it is exceedingly doubtful if the actual fishermen are at all benefited thereby.

THE DESTRUCTION OF FISH ON SPAWNING GROUNDS.

The obstructions which exist to the passage of fish up the various rivers falling into the Bay having been noticed, and the principal rivers mentioned in which salmon are destroyed while in the act of spawning, it only remains to advert to the destruction of spawning herrings on the coast.

The great spawning place for herrings in the Bay of Fundy, is undoubtedly, that at the Southern Head of Grand Manan. It begins at the eastern part of Seal Cove, at a place called Red Point; thence it extends westerly to the southern extremity of the Island; and thence around the Southern Head to Bradford's Cove, a distance of more than five miles. The quantity of herrings which strike in upon this ground during the spawning season, is truly wonderful; but their numbers will soon cease to astonish, if such an extensive destruction of spawning fish as now takes place there annually, is permitted to continue much longer.

In Scotland, the destruction of herrings on their spawning grounds is most carefully guarded against, as being of the greatest importance to the preservation of the herring fishery generally, and some useful information may be gained from the proceedings

of the British Fishery Board in this matter. In the Report of the Board laid before Parliament in 1847, is the following statement :

"A letter of the 12th March reached the Board from Mr. John Stewart, commander of the 'Princess Royal' Fishery Cutter, again pointing out the very serious destruction to the herring fishery throughout the whole branches of the estuary of the Clyde, by the illegal fishing which is carried on, and endures for about fourteen days only, previous to the above date, opposite to Ballantrae in Ayrshire. This seems to be the great spawning place for the herrings belonging to the Clyde and Loch Fyne, and for this purpose they congregate in incalculable numbers on a bank, which lies about three miles off the shore, and is about a mile and a half long, by about three quarters of a mile broad, and having about nine fathoms water over it. The spawn lies on this bank to a very great depth, for the smallest net ropes that are let down here, are hauled up of the apparent thickness of cables, from the immense quantity of spawn that adheres to them. When taken at this time, the fish are in the worst possible condition as human food, and much more likely to be prejudicial, and to spread disease, than to be nutritious; yet, tempted by the prospect of gain, there were no less than eighty boats engaged in this fishery, which cleared from £30 to £80 each, during the fourteen days it lasted. In order to make their success more certain and effectual, these boats use means which are never resorted to elsewhere. Their nets are only 2½ yards in depth, and 384 yards in length, and they contain about 960 square yards; but they attach a row of heavy stones, four feet apart, to the lower edge of the net, and sink them to the bottom among the spawning fish, so that when the nets are hauled they are covered with a heavier load of spawn than even the weight of their fish, which are so abundant. It is quite impossible to calculate the extent of loss arising to the Clyde and Loch Fyne fisheries, by this fishing, which, though highly remunerative to the few boats crews which engage in it, must spread disease among the unfortunate purchasers of the fish, who are ignorant where and how they have been caught, and which must bring comparative scarcity on the really sound, productive, and wholesome fisheries, carried on at the proper season in the Clyde and Loch Fyne."

In their Report for 1848, the Commissioners again allude to the destruction of spawning herrings on the banks at Ballantrae; they state, that they had received numerous petitions from fish curers and fishermen deeply interested in the fisheries of the west coast of Scotland, complaining of the reckless destruction of spawn, and the fry of herrings, by which myriads of these useful fish are annually destroyed. The banks at Ballantrae are stated to be well known as the nurseries of the herrings visiting the western coast, and if the indiscriminate destruction which takes place there, is allowed to continue, the fishermen on that coast will be ultimately ruined, and many thousands of industrious fishermen around the various Lochs reduced to poverty, while the immense capital invested in boats and materials must be rendered wholly unproductive. The Commissioners conclude by urging upon Parliament, the necessity of a Legislative enactment bestowing on them "*certain discretionary powers beyond those they already possess, to regulate both the mode and the period of capture, so that they may be enabled to protect the broods of all kinds of sea-fish.*"

The herring fishery of the Bay of Fundy will not continue many years longer to any extent, unless an immediate stop is put to the fishery during the spawning season at the Southern Head of Grand Manan. At that season, no herrings should be caught, on any pretence whatsoever; and the necessity of a Legislative enactment, similar to that sought by the Board of British Fisheries, conferring the like discretionary powers on His Excellency the Lieutenant

Governor, in Council, would probably have the effect of leading to a discontinuance of this fishery, and a steady increase in the herring fishery of the Bay generally.

BRUSH WEIRS AND STAKE NETS.

So great a difference of opinion exists among the fishermen of the Bay, as to the effect of brush weirs upon the herring fishery, that it is somewhat difficult to arrive at a correct conclusion on the subject.

The erection of herring weirs has, by implication, been sanctioned by the Legislature, by the Acts for their regulation, and it is not now so much a question, whether they shall, or shall not, be permitted, as whether the existing laws are sufficient; and if not, what further regulations and provisions are necessary to prevent their injuring the fisheries.

The weirs between high and low water mark, which are dry at low tide, should be put under careful superintendence, as these, above all others, are calculated to destroy vast quantities of small fish and fry, too small for any useful purpose except as manure—a dangerous stimulant to the soil. The weirs set up in narrow channels and passages, some of which were noticed on the eastern side of Grand Manan, must also be destructive from their very position, besides obstructing navigation.

The proprietors of lands on the sea shore, should be made to understand, that their rights do not in any case extend below low water mark; and a careful watch should be kept to prevent encroachments on the rights of the public, by persons disposing of "fishing privileges," to which they are in nowise entitled.

All weirs should be furnished with gates for the free egress of such fish as ought to pass out again to sea, and this also requires careful supervision, as very many weirs were found without any gate or opening whatever.

The brush weirs for shad, at the head of the Bay, are believed to be most injurious to that fishery, as in almost every case they were found to take the smallest fish only. In Enragé Bay, they ought to be abolished altogether, or at the utmost, only permitted at such season, if any, as might on inquiry, be found not prejudicial to the shad fishery generally. The stake nets for shad, also require to be limited in their extent, and when permitted to be set, the mesh to be of the same size as the mesh allowed to drift-nets, and no smaller.

The size of the mesh, both for salmon and shad nets, ought to be regulated in such manner as to prevent the taking of small salmon and young shad. In the shad fishery especially, there appears to have been, and still to be, a gradual diminution of the mesh from year to year, with the view of taking a greater number of fish each season; and the effects of the catch of small shad will soon be felt in the decrease of the fishery.

The use of small meshed nets in the herring fishery on the coast of Scotland, is considered so prejudicial, that they are strictly prohibited by law. To prevent the use of such nets in the Firth of Forth, H. M. steam vessel "Dasher" has been stationed there

during the last three seasons, and such vigilance has been exercised, and so many illegal nets seized, that this unfair fishing has been broken up. On the west coast of Scotland, H. M. steam vessel "Lucifer" has also been employed in a similar manner. Both these steamers, and the "Princess Royal," Fishery Cutter, off the North West Highlands, have at all times been able to render most seasonable assistance to the fishermen, besides repressing the depredations and pilfering of fishing property, which invariably takes place, wherever large bodies of fishermen congregate in the prosecution of their business.

SUMMARY.

1. It is quite clear from the foregoing Report, that the imperfect and careless manner of curing the fish caught in the Bay of Fundy, whether from neglect or want of skill, is such as to prevent those fish obtaining the best prices, and prohibits their being sent to distant foreign markets, for which they would otherwise be well adapted; thereby preventing an extension of the foreign trade of the Province, and diminishing its general prosperity.

2. The laws which exist for regulating the inspection of fish, are everywhere treated as a nullity, except in cases where it is found convenient to affix what purports to be an official brand, for the purpose of giving character to articles which are short of weight, and oftentimes worthless.

3. The enormous destruction of herrings, and their spawn, at the Southern Head of Grand Manan, is an evil which demands immediate remedy; if this is neglected, the herring fishery of the Bay of Fundy will fail altogether in a few years, and line-fishing, which so greatly depends upon the supply of herrings, will fall off in proportion.

4. The closing of the various rivers flowing into the Bay, and their tributaries, by mill-dams; the injuries arising from saw-dust, and mill-rubbish, being cast into rivers and harbours; and the wholesale destruction of salmon on their spawning-beds far up the rivers, have all been pointed out in this Report. They are all evils that require an immediate check.

5. The intrusion of American fishing vessels upon the fishing grounds of the Bay of Fundy, is loudly complained of everywhere, by the fishermen of the Bay. Measures are required for keeping these vessels without the limits established by the Convention of 1818, either by requesting the services of some of the smaller vessels belonging to the Royal Navy, or else by employing Fishery Cutters, at the joint expense of New Brunswick and Nova Scotia. The Despatch from Lord Stanley to Lord Falkland, dated 17th September, 1845, under which the Americans justify their intru-

sion in the Bay, is given in the Appendix, with a note of the circumstances which led to its being transmitted.

6. The laws relative to the regulation of brush-weirs and the use of drift-nets, require revision; and enactments are needed to provide for the use of stake-nets and net-weirs, at proper seasons only. Provision should also be made for preventing the use of small meshed nets in every fishery, in order that no fish whatever may be taken until it has attained a sufficient growth.

7. The great step toward increasing the fisheries and rendering them more valuable, is the enactment of a general inspection law, with provisions for the appointment in every County and district, of competent and trust-worthy Inspectors of dried, pickled, and smoked fish; and a total prohibition of the sale or exportation of any such fish, unless inspected and branded by the proper officer.

8. The employment of persons skilled in the cure and packing of fish, (such as the curers and coopers of Scotland) to be located as teachers in the most populous fishing districts, would soon spread the knowledge of improved modes of cure, and lead to the fish of the Bay of Fundy being cured in such manner, as would fit them for the best markets of the world. The employment of such teachers is respectfully recommended.

9. The enactment of a general law for the protection and regulation of the Sea and River Fisheries of the Province generally, is greatly needed, and would seem matter of absolute necessity. In such a law, power might be given to some central authority, such as the Lieutenant Governor in Council, to make rules and ordinances with reference to minor points, which although apparently trifling, have an important bearing upon the prosperity and extension of the fisheries.

10. On the shores of the Bay of Fundy, as well as on those of the Gulf of Saint Lawrence, the fishermen have great need of better accommodations, and increased conveniences. They complain, not wholly without cause, of the paucity of the grants made to assist them in their business, in comparison with those made to other and more favoured interests. As stated in the Report of last year, they require in many places, landing-piers, breakwaters, shelter-harbours, boat-slips and capstans, and moorings for boats and small vessels; these ought to be provided at the public expense, as one of the best modes of assisting and encouraging the actual fisherman who dwells by the sea side.

11. The establishment of a few superior schools at Grand Manan, Campo Bello, and West Isles, and probably in some other locations, where the young fishermen should be taught book-keeping, navigation, some knowledge of astronomy, and such other branches of learning as might be useful in their calling, would be one of the greatest boons that could be conferred upon

this class of persons. An improvement would soon take place in their moral and social condition, and they would not be driven out of the Province, to seek employment from persons possessing more education, but in no other respect superior to themselves.

12. The neglect to enforce the provisions of existing laws, or to enact other and more stringent provisions in lieu of such as are ineffective, or too limited in their operation, has led to a great decrease in several branches of the fisheries. A longer continuance of this neglect will assuredly lead to the decay of the fisheries generally, which year by year will waste away, until some disappear altogether, and others become of the least possible value.

M. H. PERLEY.

*Government Emigration Office,
St. John, N. B., March 12, 1851.*

DESCRIPTIVE CATALOGUE

[IN PART]

OF

THE FISHES

OF

NEW BRUNSWICK AND NOVA SCOTIA,

BY

M. H. PERLEY, ESQUIRE,

HER MAJESTY'S EMIGRATION OFFICER AT SAINT JOHN, NEW BRUNSWICK.

(SECOND EDITION.)

FISHES are described as vertebrated animals, with cold red blood; breathing by gills, through the medium of water; without lungs. Body covered mostly with imbricated scales or plates, or with a smooth mucous skin. Move in water by means of fins instead of feet, which vary in number. Reproduced by eggs, which are usually fecundated after eclosion. Heart unilocular, or composed of one auricle and one ventricle. Head various; no neck. Aquatic. Chiefly carnivorous.

Fishes have been divided into two great groups, viz.—the Bony, and the Cartilaginous. The first comprises by far the greatest number of species.

In these two great divisions, the Fishes of New Brunswick and Nova Scotia, so far as yet examined or known, are here classified and briefly described.

CLASSIFICATION.

GROUP I.--BONY FISHES.

ORDER 1.—Fishes with spinous rays in their fins.

- | | |
|----------------------------|--------------------------------------|
| Family 1. <i>Percidæ</i> . | The Perch family. |
| 2. <i>Triglidæ</i> . | Fishes with hard cheeks. |
| 3. <i>Scombridæ</i> . | The Mackerel family. |
| 4. <i>Gobidæ</i> . | The Goby family. |
| 5. <i>Lophidæ</i> . | Fishes with wrists to pectoral fins. |
| 6. <i>Labridæ</i> . | The Wrasse, or Rock-fish family. |

ORDER 2.—Soft-finned fishes ; the fin-rays almost universally flexible.

- | | |
|------------------------------|------------------------|
| Family 1. <i>Cyprinidæ</i> . | The Carp family. |
| 2. <i>Esocidæ</i> . | The Pike family. |
| 3. <i>Siluridæ</i> . | The Sheat-fish family. |
| 4. <i>Salmonidæ</i> . | The Salmon family. |
| 5. <i>Clupeidæ</i> . | The Herring family. |

ORDER 3.—Fishes with ventrals under the pectorals, and the pelvis suspended to the shoulder bones—thrs better adapted for ascending and descending than the preceding order.

- | | |
|---------------------------|------------------------------------|
| Family 1. <i>Gadidæ</i> . | The Cod family. |
| 2. <i>Pleuronectidæ</i> . | The Flat-fish, or Flounder family. |
| 3. <i>Cyclopteridæ</i> . | The Lump-fish family. |

ORDER 4.—Fishes in which the ventral fins are always wanting.

- | | |
|-------------------------------|-----------------|
| Family 1. <i>Anguillidæ</i> . | The Eel family. |
|-------------------------------|-----------------|

GROUP II.--CARTILAGINOUS FISHES.

ORDER 1.—Fishes with free gills,—they have in their gills a single wide opening, and a gill-lid, like the Bony fishes, but no gill-rays.

- | | |
|-------------------------------|----------------------|
| Family 1. <i>Sturionidæ</i> . | The Sturgeon family. |
|-------------------------------|----------------------|

ORDER 2.—Fishes with fixed gills,—these have the gills attached at the outer edge, with a separate opening, through which water from each gill escapes.

- | | |
|-----------------------------|-------------------|
| Family 1. <i>Squalidæ</i> . | The Shark family. |
| 2. <i>Raidæ</i> . | The Ray family. |

ORDER 3.—Fishes with round mouths formed into a sucker.

- | | |
|----------------------------------|---------------------|
| Family 1. <i>Petromyzonidæ</i> . | The Lamprey family. |
|----------------------------------|---------------------|

DESCRIPTION OF GROUP I.
CONSISTING OF THE OSSEOUS, OR BONY FISHES.

ORDER 1.—Fishes with spinous rays in their fins.

Family 1.—PERCIDÆ—The Perch family.

Genus 1.—*Perca*.

Species 1.—*Perca flavescens*—The American yellow Perch.

This beautiful fish is common in almost all the inland waters of New Brunswick and Nova Scotia. It is of a greenish yellow above, with golden yellow sides, crossed by seven transverse dark bands, the broadest upon the middle of the body; beneath, white. The back, and tail fins, brownish; the other fins, scarlet. Length, 6 to 12 inches. It spawns in May, and then resorts to the mouths of rivulets in great numbers.

The common yellow perch is considered one of the best known, and most widely distributed of all the fresh water fishes of North America. It is a northern fish, as its limits extend to the 50th parallel of north latitude.

It is very closely allied to the *perca fluviatilis* of Europe; and like that fish, is much esteemed by those who cannot obtain salt water species. It is readily transported from one lake or stream to another, and has been frequently introduced in pieces of water in America, where it did not previously exist, with much success.

The general habitat of the perch is in lakes and streams, not too rapid. It delights in a clear bottom, with grassy margin, or in rivers overhung with brush, and widening into some lake-like expanse. Here the perch roam in shoals, descending and rising while seeking their food, and shading themselves from the too great heat, among the aquatic plants, or under the broad leaves of the white water-lily.

Genus 2.—*Labrax*.

Species 1.—*Labrax Lineatus*—The striped Bass.

This fine fish is found on the sea coast of New Brunswick, and it also frequents many of its rivers and lakes. The upper part of the body is silvery brown; lower part of sides and abdomen, a beautiful clear silver colour; eight or more longitudinal black bands running the whole length of the fish, the lower ones terminating above the anal fin. Length, 1 to 3 feet.

The basse is a salt water fish, ascending fresh water streams to breed, in the spring, and for shelter during the winter. Very large fish of this species have been frequently taken in the Grand Lake, and the "thoroughfares" therewith connected, by night-lines, in the winter season. The basse abounds in most of those rivers of New Brunswick which flow into the Gulf of Saint Lawrence. It was formerly abundant in the Basin of Mines, and the Basin of Annapolis, but in each has become rare, owing to its unlimited destruction there at all seasons.

Along the New Brunswick and Nova Scotia shores of the Gulf of Saint Lawrence, the basse make their appearance in large schulls, in the early part of September. They keep around the islands, and between the outer bar and the beach in the lagoons, where they are often taken in neis, and also at night with torch and spear. As the season advances, and the weather becomes colder, they penetrate into bays, and arms of the sea, and even ascend the rivers some distance, where they spend the winter resting on the mud, in a half torpid state. The places which they frequent are easily discovered, the fish being seen through the clear ice when it first makes; large holes are cut in the ice, and the fish are lifted out with a circular net on a strong wooden bow, called a dip-net. All the fish in each locality, of whatever size, are thus taken; and in many of the northern rivers, especially the Richibucto, and North West Miramichi, where they were formerly very abundant, they are now quite scarce, and only found of small size.

The basse will frequently take the same artificial fly, (scarlet ibis and gold,) as is used in salt water, for the white or sea trout. From the avidity with which it seizes a hook baited with a piece of the flesh of a lobster, or with clams, and the smaller crustacea, it is probable that these form no inconsiderable portion of its food. The smelt is also a good bait for basse. A long line is requisite in basse fishing, as it is what sportsmen call, "a runaway fish." At the end of a hundred yards of line it affords great sport, being fierce, vigorous, and very active, not yielding until after a long and violent struggle with its captor. After the salmon family, it is unquestionably the most sporting fish of America. Its geographical range is from the Capes of the Delaware to the River Saint Lawrence.

The body of the basse is cylindrical and tapering, covered with large adhesive scales; lateral line obvious, running through the fourth stripe, and nearly straight. Altogether, it is very beautiful; and besides being one of the most sporting of American game fish, the basse is excellent food, the flesh being very firm, white, and well-flavoured.

Species 2.—*Labrax pallidus*—The little white Basse.

This diminutive basse is best known by its popular name of "white perch." It abounds in many of the lakes and streams connected with the River Saint John, but it is always found in localities where there is very little current, if any, and upon a soft bottom, in the vicinity of aquatic plants and weeds. The ordinary weight of the "white perch," is from 4 to 6 ounces; in September, they are often taken above half a pound in weight; the largest seen, weighed a pound. They are a very fine fish for the table, when in season.

In the numerous lakes near Halifax, and at Darling's Lake, near Hampton, in New Brunswick, this little basse is taken in great numbers, by anglers. It frequently takes the artificial fly, but is usually caught by bottom fishing, with the red-worm for bait. To those who like fishing with the float, the white perch affords great sport, as it bites very freely, and is generally caught in considerable numbers at any place which it frequents.

Genus 3.—*Pomotis*.

Species 1.—*Pomotis vulgaris*—The common Pond-fish.

The *potomis* is exclusively an American genus of the perch family. Its type was originally styled a *labrus* by Linnæus, Lacepede, and others; but in calling it a perch, the common people, according to Cuvier, exercised more discernment than naturalists.

This description of perch is very common in all those waters in which the yellow perch is found. It is generally from 6 to 8 inches in length, of a deep green colour, mixed with olive, and is easily distinguished by the bright scarlet spot behind the opercle. Among rural anglers it is known as the "sun-fish," from the glittering colours it displays while basking in the sun. It is seldom dressed for eating, being an exceedingly bony, dry fish, but is often caught for amusement.

It has a wide geographic range, extending from Lake Huron, throughout the Eastern States of the Union, and all the British Provinces.

Family 2.—TRIGLIDE—Fishes with hard cheeks.

Genus 1.—*Cottus*—The Sculpin.

Species 1.—*Cottus Virginianus*—The common Bullhead.

Species 2.—*Cottus Groenlandicus*—The Greenland Bullhead.

The sculpin is very numerous on all the fishing grounds of the New Brunswick and Nova Scotia coasts, and is sometimes a great annoyance to line-fishers, who regard it with much aversion. When freshly taken from the water, and irritated, it presents rather a formidable appearance; but nevertheless, it is said not to be a bad article of food.

When the line-fishers in the Bay of Fundy find the sculpin biting too freely, they immediately change their ground to avoid it.

Besides the two species named, it is believed that there are several other species, as well as some varieties. The sculpin ranges the coast of North America from Virginia to Baffin's Bay, and is a favourite food of the Greenlanders.

It is exceedingly voracious, devouring small fish, crabs, and sea-eggs; in fact, nothing comes amiss to the sculpin.

Genus 2.—*Gasterosteus*.Species 1.—*Gasterosteus biaculeatus*—Two-spined Stickleback.

This diminutive fish abounds in the estuaries of rivers, and in those creeks of New Brunswick and Nova Scotia to which the sea has access. It is usually found about two inches in length, with two distant spines on the back, and a third near the dorsal; and a strong serrated spine on each side, representing the ventrals. It is exceedingly active in its movements, and will throw itself a considerable distance out of water. Its appetite is voracious; it feeds on worms and insects, and the fry and roe of other fish, great quantities of which it devours.

It is believed that more than one species of stickleback exists in the waters of New Brunswick and Nova Scotia. They are all very pugnacious, and when confined will destroy each other. They are only worthy of notice on account of their destructive propensities, and because they are sometimes used as bait for larger fish. In some parts of England, they are so abundant that they are employed as manure.

Genus 3.—*Sebastes*.Species 1.—*Sebastes Norvegicus*—The Norway Haddock.

This is a northern fish, common to both sides of the Atlantic; on the coast of North America, it has been found as far south as New York, where however, it is very rare. It is frequently caught in Boston Bay, while fishing near shoal ledges, contiguous to deep water. Among fishermen, it is known by the popular names of "red sea perch"—"the rose fish"—and the "snapper." The writer has seen a specimen taken near Portland, (Maine) and believes it to exist along the coast of Nova Scotia, becoming more plentiful towards the north, from whose waters it originally wandered.

In June 1851, some very fine specimens of the Norway haddock were caught in the Bay of Fundy, off Port Simonds, east of the Harbour of St. John. They weighed about a pound and a half each, were of a brilliant red colour, in very fine condition, and when brought to table, were exceedingly palatable.

This fish is said to attain the length of two feet; its body is oblong, compressed, covered with scales. All the upper part of the body and the fins are of a bright carmine red; darker upon the head and back, lighter upon the sides; nearly white beneath; a brown blotch on the posterior part of the opercle. Length of the head, from tip of lower jaw when closed, to posterior angle of operculum, one third the length of the fish; top of the head flattened. Eyes very large; pupils black; irides yellow; diameter of eye equal to one third the length of the head. Jaws armed with numerous, minute, sharp teeth; upper jaw very protractile; an emargination in its centre,

into which the extremity of the lower jaw shuts, when the mouth is closed. Chin prominent. Teeth in vomer, and palatine bones.

The Norway haddock is found abundantly on the coast of Newfoundland. It feeds on flounders and other small fish, and takes the hook readily. In Norway, it is eaten largely, being considered a great delicacy. In the deep bays on the southern coast of Greenland, it is caught in great numbers, on baited hooks attached to very long lines; the Greenlanders use the spines for needles.

Family 3.—SCOMBRIDÆ.

Genus 1.—*Scomber*—The Mackerel.

Species 1.—*Scomber vernalis*—The Spring Mackerel.

Species 2.—*Scomber grex*—The Fall Mackerel.

These two species of mackerel are generally believed to be but one; but Cuvier considers them as different, and in this has been followed by Dr. DeKay of New York. The *scomber vernalis* is the ordinary mackerel of commerce, while *scomber grex* would seem to be those little mackerel about ten inches in length, which are found in scattered numbers every where, and are called by the fishermen of the Bay of Fundy, "tinker mackerel," from their wandering habits.

Although the mackerel is caught in great quantities on the northern coast of New Brunswick, and within the Bay of Chaleur, as also around the Magdalen Islands, yet it is rarely known to visit the coast of Labrador. It is stated by Mr. Horatio Robinson Storer, of Boston, who visited the Labrador coast in 1849, that mackerel appeared there in great abundance that season, at the Island of Little Mecatina; but no fishing vessels being at hand, they departed again unmolested, the few settlers on that desolate coast having neither nets or lines for taking them. The mackerel fishery of Nova Scotia furnishes one of its largest exports. In 1850, no less than 96,650 barrels of mackerel were exported from the port of Halifax alone. Many of these were taken in the vicinity of Sable Island, and were of the finest quality.

Mackerel were formerly abundant near the coasts of Newfoundland, but none have been taken there since 1837. They were also plentiful formerly in the Bay of Fundy, near Grand Manan and West Isles, where but few are now taken.

The great resort of the American mackerel schooners is on the north and east side of Prince Edward Island, and in the vicinity of Miscou, at the entrance to the Bay of Chaleur. There is also good mackerel fishing within the Straits of Northumberland, especially off Buctouche and Richibucto.

The mackerel taken in the early part of the season are generally very poor; they improve in quality as the season

advances, those taken latest being by far the best. It is now considered settled, that the mackerel is not a migratory fish, but draws off into deep water, at the approach of winter, and returns to the shallow water near the shores, at the beginning of summer, for the purpose of depositing its spawn.

Genus 2.—*Thynnus*.

Species 1.—*Thynnus vulgaris*—The common Tunny.

This fish is better known by its popular name of "horse-mackerel;" on the Atlantic coast of Nova Scotia, the fishermen generally call it the "albicore." It is there frequently taken from 6 to 12 feet in length: sometimes it is enclosed in the seine with mackerel. The fishermen are then anxious to get rid of it, as quickly as possible, because in its struggles, it is apt to break directly through the seine, causing great damage to the net, and the loss of all the other fish in it.

Dr. Storer, in his Report on the Fishes of Massachusetts, mentions one of these fish as having been taken near Cape Anne, which was 15 feet in length, and weighed about 1000 lbs., but he considers it a rare fish in the waters of that State. A fisherman at Halifax stated to the writer, that he had taken a "horse-mackerel" near that harbour, which when cut up filled three puncheons.

In the Mediterranean, the tunny is a common fish, generally swimming in shoals, and has long been celebrated there for its delicacy. It is supposed to be a wanderer from the Mediterranean, as single specimens are occasionally taken upon the coast of Great Britain, on the banks of Newfoundland, and along the coast of North America, as far south as New York. In America, it is not held in much estimation as an article of food.

The upper surface of this fish is blackish; the sides, silvery; beneath, white. No coloured lines or spots; tongue and inside of the mouth, black. Irides golden, with greenish reflections. It is characterised by very large and long pectoral fins; the tail is crescent shaped, very wide across the tips. The jaws when closed are nearly equal; the tongue, large and broad; the gape of the mouth very large. The scales on the back, in front of the first dorsal, and beneath the pectorals, also very large. Gill covers exceedingly large, perfectly smooth, of a silvery gray colour. The rays of the first dorsal fin are very strong; this fin shuts entirely into a deep groove, and, when unexpanded, is perfectly invisible.

In the Mediterranean, the tunny fishery is very important; in Sicily it forms one of the most considerable branches of the commerce of the Island. The tunny is there cured, by taking out the whole of the inside, washing the flesh with brine, and cutting it in slices, which are covered with pounded salt. These slices are packed in barrels, with alternate layers of

salt; and when sent to any distance, they are packed in smaller barrels with fresh salt.

The flesh of the tunny is so solid, that it seems something between fish and meat; it is as firm as sturgeon, but finer flavoured. In France, it is dressed in a variety of ways, and always excellent. It is served as a ragout, or plain fried or boiled; pies are made of it, which are so celebrated as to be so t all over France—they will keep good for six weeks or two months. Before it is cooked, the flesh has the red appearance of beef, but when dressed it becomes more pale.

In America, this fish is of inferior quality, or else is greatly undervalued. Of late years, it has been often taken at Newfoundland, where it appears to become more plentiful yearly, and to rise in public estimation.

Genus 3.—*Xiphias*.

Species 1.—*Xiphias gladius*—The Sword-fish.

This fish is met with along the Atlantic coast of North America, but Richardson does not include it in his list of northern fishes, its presence at the north not having been ascertained, with certainty, by those who had referred to it.

It is usually discovered by the projection of its dorsal fin above the surface of the water, when in pursuit of mackerel, upon which it feeds.

The back and upper part of the sides are of a sky-blue colour; beneath, silvery grey; surface smooth. Length, from 10 to 15 feet. The dorsal fin in the young fish is single; it becomes effaced in the middle, and forms two distinct fins in the adult. The upper jaw is prolonged into a flattened sword; the edges bluntly trenchant, approach each other, and terminate in a blunt point. The lower jaw is short and pointed; the gape of the mouth extends behind the orbits. It has no teeth, but slight asperities may be felt on the lower jaw, and velvet-like teeth in the throat. The tail, like that of the tunny, is crescent-shaped, with 17 rays. The sword-fish has a great range on the eastern side of the Atlantic, and is one of the few fish which cross that ocean.

These fish are taken about 15 or 20 miles from land, in pursuit of shoals of mackerel, on which they feed. They are captured by means of an instrument called a "lily-iron," from the form of its shaft, or wings, which resemble the leaves of a lily. This instrument is thrown like a harpoon, with great force into the fish, the attempt being always made to strike it in front of the dorsal fin. When wounded, it sometimes frees itself from the iron by its violent struggles. When unmolested, it is frequently observed to spring several times its length forward several feet above the surface of the water.

On the coast of the United States, the flesh of the sword-fish is eaten both fresh and salted. Before being pickled, the

flesh is cut into slices, and it is said to remain good for a year; in Massachusetts several hundred barrels are put up annually, the greatest number of these fish being taken off Martha's Vineyard.

This fish has been frequently seen off the Atlantic coast of Nova Scotia, but it is seldom taken, not being in sufficient numbers to render its pursuit an object.

Family 4.—GOBIDÆ.

Genus 1.—*Anarrhicas*.

Species 1.—*Anarrhicas lupus*—The Wolf-fish.

The general colour of this voracious fish is a leaden gray. It has 11 or 12 broad black bands on the sides, becoming indistinct toward the tail; the belly is of a brownish ash-colour, tinged with pink.

Its usual length is from 30 inches to 5 feet; but in high northern latitudes, it is said to attain the length of 6 and 8 feet. It has been caught at Rockaway beach, on Long Island, (New York,) which is supposed to be its extreme southern limit.

Dr. Storer says it is captured on the coast of Massachusetts, generally about rocky ledges, at all seasons of the year, but greater numbers are taken in winter than at any other time. Its ferocious-looking, cat-like head, and exceedingly coarse, thick skin, covered with slime, give it a hideous appearance, and render it an object of such disgust, that it is thrown away almost as soon as caught; yet many fishermen regard it as excellent food. Dr. Storer says he has had it upon his own table, and that few fish are superior to it, when broiled. The flesh is said to have somewhat the flavour of salmon, when smoked.

This fish is often caught at the entrance to the Bay of Fundy, sometimes near Grand Manan and Campo Bello. In the spring of the year, it is taken frequently in Saint Mary's Bay; and it is caught at all times along the Atlantic coast of Nova Scotia.

The voracious and savage character of the wolf-fish, or "sea-wolf," as it is often called, is apparent from its formidable array of teeth, and its vicious propensities when first drawn from the water. Dr. DeKay says, such marvellous stories are related of the strength and power of its jaws, that they more properly belong to the romance of natural history.

Very many fishermen have a great dread of this fish, and seek to get rid of it, as quickly as possible; while others lose not a moment in dispatching the savage "sea-wolf," by heavy well-aimed blows upon the head. It fights desperately even when out of its element, and inflicts severe wounds if not cautiously avoided.

The food of the wolf-fish consists of crustaceous and testaceous animals, which its powerful jaws, and rounded molar

teeth, enable it to break down sufficiently for its purpose. It swims rapidly, with a lateral, undulating motion, and is said to spawn in May and June, among rocks and reefs, near which it is generally caught.

Family 5.—LOPHIDÆ.

Genus 1.—*Lophius*.

Species 1.—*Lophius Americanus*.—The American Angler.

This fish has a very disgusting appearance, and its monstrous form has given rise to many popular names, such as "sea-devil," "fishing-frog," "bellows-fish," "goose-fish," "monk fish," and various others.

The angler belongs to a small and singular group of fishes, designated by Cuvier, *pectorales pédiculées*, from the peculiar formation of the pectoral fins, which are palmated, and shaped not unlike the hand of a child; they are placed very far forward on the body; by these and the aid of the ventrals, which, from their position, perform the office of hind feet, the fish can creep on the bottom like a little quadruped.

A specimen about 3 feet long was observed on Long Beach, above Great Salmon River, in the Bay of Fundy, in September 1850. It was taken in the weir there, which it had entered in pursuit of herrings. Several specimens were seen in November 1850, on the shores of Annapolis Basin, near Digby, where they were thrown up by a severe storm. They are said to abound in that Basin, and to be very destructive to the shoals of herrings which resort there.

Yarrell says, that this fish in its appetite is very voracious, and as it is not a rapid swimmer, has recourse to art to satisfy its appetite. Upon its head are two long, slender appendages, the first of them broad and flattened towards the ends, and at the dilated part, having a shining silvery appearance, not unlike a little fish. While couching close to the ground, the fish, by the action of its ventral and pectoral fins, stirs up the sand, or mud; hidden by the obscurity thus produced, it elevates these appendages, moves them in various directions by way of attraction as a bait, and the small fishes, approaching either to examine or seize them, immediately become the prey of the angler, and thence it derives its general name.

The head of this fish is wide, depressed; the mouth nearly as wide as the head. The gape of the mouth, in the specimens seen, was 9 inches; and the numerous double rows of teeth, some recurved and conical, and others long and acute, give the enormous gaping mouth a frightful appearance. These fish are never eaten, but they are sometimes opened for the sake of the numerous fishes found in their stomachs, which are monstrously large, as compared with the length of the fish.

The colour of the whole upper surface of the body, uniform brown; fin membranes, darker; under surface of the body, ventral and pectoral fins, white; tail, dark brown, almost black.

This fish is found all along the coasts of Nova Scotia and New Brunswick; it has been known to measure 5 feet in length, but its most common size is about 3 feet.

Family 6.—LABRIDÆ.

Genus 1.—*Ctenolabrus*.

Species 1.—*Ctenolabrus ceruleus*—The Sea Perch, or Cunner.

This fish is common on the Atlantic coast of North America, from Delaware Bay to the shores of Newfoundland, and is known by a variety of names. In New York, it is called the "bergall," a name of Dutch origin; and also the "chogset," derived from the Mohegan dialect. On account of its prevailing colour, it is often called "blue-fish." At Boston, where this fish is taken in myriads, it is called "blue-perch;" but among eastern fishermen generally, it is known as the "cunner."

There is scarcely any fish whose colours are so variable as this species. In the smaller individuals, the general colour is blue, more or less mixed with brown; and faint, dusky, transverse bars may frequently be seen. In the larger species, such as are 12 inches long, the colours are bright and showy, a light orange-coloured tint pervading the whole body; the head and gill-covers of a beautiful chocolate colour, mixed with light blue; the fins of a blue, more or less brilliant.

The jaws of the "cunner" are covered with thick fleshy lips, whence this family derives its name of *labrus*, lipped—that is, thick-lipped fishes.

The first specimens of these fish seen by the writer in the Bay of Fundy, were taken with hook and line, in 1844, from the rocks on the sea shore near Black River, east of the Harbour of Saint John. These were of a reddish brown colour; the body elongated, compressed, the depth equal to one fourth of the length.

These fish frequent deep pools among rocks, hide themselves in *fuci*, and are said to feed chiefly on crustacea. Where their haunts are known, and are accessible, there is much fishing for them, on the coasts of Maine and Massachusetts, with rod and line, for they take bait very readily, the first taken being generally the largest. They are skinned before being dressed; the fish is sweet and palatable.

Mr. H. Robinson Storer says, they are so plentiful in the Gut of Canso, that by sinking a basket with a salt fish tied therein, he continually caught them by the score, for a supply of fresh fish while at sea. They are abundant every where on

the Atlantic and Gulf coasts of Nova Scotia, but being of small size, are very little esteemed

Genus 2.—*Tautoga*.

Species 1.—*Tautoga Americana*—The Tautog, or Black-fish.

The natural geographic range of this delicious fish is only from the Capes of the Delaware to Cape Cod; but a few years since, a number were brought into Massachusetts Bay, in well-boats, and placed alive in its waters. They have since increased there so rapidly, that the Boston market has now a full and regular supply.

It would seem that northern waters agree with this fine fish, for it has extended its range along the coasts of Massachusetts and Maine, and is now taken in the Harbour of Saint John. During the season of 1851, many good fish of this species were exhibited for sale in the fish-market of Saint John; the largest weighed eight pounds. One specimen of the length of 19 inches, weighing four pounds, was bought by the writer in July, and when brought to table, was found in good condition, and of excellent flavour.

The common black-fish, or *tautog* in the Mohegan dialect, (which is also said to mean *black*) is a well known and savory fish at New York, affording equal pleasure to the angler and the epicure. The colour of this fish is indicated by its name, but varies considerably from deep dull black to glossy blue black, with metallic reflections, and occasionally to dusky brown. The body is elongated and compressed, the back much arched from the dorsal fin to the snout, but straight posteriorly. The lateral line follows the curve of the back. The lips are very thick and fleshy, the teeth stout and of a conical form. The tail is very short, nearly even, and slightly rounded.

The usual market weight of this fish, at New York, is two pounds, but specimens have been taken weighing twelve pounds, and even more.

Rocky shores and bottoms are the haunts of the black-fish; it is readily taken with the hook baited with crabs, clams, or other small shell-fish, from April until November. It is a stationary inhabitant of the salt water, never visiting rivers, like some other sea-fish, and is supposed to feed almost exclusively on the smaller shell-fish.

The black-fish may be kept for a long time in ponds or cars; and even fed and fattened there. When benumbed by the cold of winter, it refuses to eat any more, and a membrane forms over the vent and closes it. With the returning warmth of spring, the fish regains appetite; and the blossoming of the dog-wood, (*cornus florida*), is understood to denote the time of beginning to fish for tautog. It is remarkable for retaining life a long time after taken out of the water.

Though the hand-line is generally used for black-fish, the rod is sometimes employed with great advantage. A stout trolling rod, with a strong flaxen line, and a reel, are the best implements, according to Frank Forrester. Two hooks should be used, attached to hook links of trebly-twisted gut, of the respective lengths of 12 and 15 inches, both links being securely fastened to a small brass ring. This ring is looped on the end of the line to which the sinker is appended. For all sea-fishing with bait, in shoal water, this is the best arrangement of hooks.

The black-fish is altogether a bottom fish, and is generally caught in whirls and eddies, in the immediate vicinity of rocks and reefs; it must be struck sharply, and pulled up without a moment's delay.

Attempts have been made to extend the limits of this fish to the south, a smack load having been carried from Rhode Island very many years ago, and turned adrift in the Harbour of Charleston, South Carolina. Some are now occasionally caught there, weighing from one to two pounds only, but never in such quantities as to be brought to market. The southern extension was therefore a failure; but as the black-fish has naturally found its way from Massachusetts to the Bay of Fundy, and is already taken there of large size, it may be concluded that it will establish itself in northern waters, and soon become plentiful—a matter of rejoicing to the sporting fisherman, and to all who love the delicacies of the table.

ORDER 2.—Soft-finned Fishes; the fin-rays almost universally flexible.

Family 1.—CYPRINIDÆ.

Genus 1.—*Catostomus*.

Species 1.—*Catostomus communis*—The common Sucker.

This fish abounds in all the rivers and streams of New Brunswick. It is from 10 to 14 inches in length; the flesh is seldom used as food. The body is long, rounded, and tapering; the head dark green above, verging to black; the cheeks bronze and golden. The upper part of the body a dark purplish colour, with pink and metallic tints on the sides, frequently of a resplendent golden hue, extending over the abdomen; beneath, white. The head is smooth, and without scales; the mouth, protractile, with thick puckered lips, the lower lip two-lobed. This fish is exclusively North American.

James L. Price, Esquire, of Ludlow, on the Miramichi, whose observations in natural history are very accurate, states that the flesh of the sucker, though rather insipid food, is eaten by many persons; usually fried while fresh, but sometimes slightly salted and dried. Mr. Price says it feeds chiefly on

aquatic worms and larvæ, and seldom takes bait. It spawns early in summer, after which it becomes meagre and tasteless; during the early part of May, before spawning, it is in best condition. However much the humble properties of the sucker may protect it from the voracity of man, it is not without formidable enemies. Its young are greedily devoured by the king-fishers; it is the chief prey of the fish-hawk, and it affords a desirable repast even to the dainty trout. Mr. Price mentioned to the writer, that he once met with a trout of considerable size, in the Miramichi, which had been choked in an unsuccessful attempt to swallow a large sucker.

In the autumn, the sucker is abundant in the New York markets; at that season, its flesh is considered of the best quality, although very inferior and tasteless.

Genus 2.—*Leuciscus*.

Species 1.—*Leuciscus chrysoleucus*—The yellow Shiner.

The general colour of this very pretty fish, is a beautiful golden; the top of the head and back, black; the gill-covers, a brighter yellow than the sides. Its usual length is from 5 to 7 inches, and it is found in great abundance, in those parts of ponds and quiet streams which are frequented by the yellow and white perch. The writer has taken them in great numbers, in the latter part of summer, in the waters near Hampton Ferry; it is an exceedingly delicate, finely flavoured fish, when eaten fresh, and may be considered one of the most savory of the smaller fresh water fishes of New Brunswick. It has received the popular name of carp, to which family it properly belongs.

Species 2.—*Leuciscus cornutus*—The Red-fin.

This beautiful little fish is found in many of the swift and limpid streams of New Brunswick, associated with brook trout. It is generally about 5 or 6 inches in length, very lively and active in its movements. All the fins are broadly margined with deep scarlet, whence it gets its name of the "red-fin," although it is also generally known as the roach. The top of the head is covered with minute pointed tubercles, which are also seen on the sides of the snout, and form a regular series along the sides of the lower jaw.

Species 3.—*Leuciscus pulchellus*—The Roach Dace, or Beautiful *Leuciscus*.

This fish is somewhat larger than the species last mentioned, but its colour is more silvery, and it has not the brilliant scarlet fins of the roach, all its fins being light coloured; nor has it the roughness on the top of the head. It is not generally found in swift water, but appears to delight in eddies and pools, where it may be caught in great numbers, when on the feed.

Species 4.—*Leuciscus argenteus*—The shining Dace.

This pretty little fish varies from 2 to 6 inches in length. The whole surface of the body is silvery; rather darker on the back. From its brilliancy, it is usually called the "shiner."

The three species last mentioned, all take the artificial fly readily, and are often caught by fly-fishers while angling for trout; the red-fin is the best for the table. They are in the best condition during the month of May.

Species 5.—*Leuciscus cephalus*—The Chub.

The chub is well known in every river and stream of New Brunswick and Nova Scotia frequented by other fresh water fishes it is taken of all sizes, from 4 to 16 inches. In the River Saint John, in the Miramichi at Boiestown, and in the Hammond River, the writer has taken chub by fly-fishing, weighing three pounds and upwards. The chub also takes bait readily, but is a timid fish; the largest if once disturbed or frightened, will not bite again for some time. It is considered a coarse fish, but those of large size, eaten fresh, are very palatable. Mr. Yarrell says, that broiling chub with the scales on, is the best mode of preparing it for table.

Species 6.—*Leuciscus atronotus*—The Brook Minnow.

This very little fish is found in almost every brook in great numbers. It is usually about an inch and a half in length, and has three bands on its sides, running longitudinally; the lower a broad black band, then a golden yellow band, somewhat narrower, and above that, a narrow dark band; when the fish is swimming, these three bands give it a pleasing appearance. It is only caught as bait for larger fish, especially for large trout, which prey upon it greedily.

Genus 3.—*Fundulus*.Species 1.—*Fundulus fasciatus*—The striped Killifish.

In all the salt water creeks and bays of New Brunswick and Nova Scotia, this fish abounds. In length, it is from 1 to 3 inches, the sides of a brassy yellow tinged with green. It presents much variety in its markings, having from twelve to eighteen blackish bars, often obscure, and two to five longitudinal stripes.

Its popular name is derived from its abundance in creeks and estuaries, which the Dutch settlers at New York termed "kills." It is also known by its Indian name of "nummachog," corrupted by the English settlers on the Gulf shore of New Brunswick, where it abounds, to "mammychub."

It is only taken as bait for other fishes. Some of these fish which were caught in the Harbour of Shediac in a landing net, were observed to be remarkably tenacious of life, and to live a long time out of the water after being hung up in the net.

Family 2.—SILURIDÆ.

Genus 1.—*Pimelodus*.Species 1.—*Pimelodus catus*—The common Cat-fish.

This unsightly fish is found in all those ponds and streams where the yellow and white perch are taken, and is sometimes called the "horned pout;" its length is from 6 to 10 inches. The cat-fish is not eaten in New Brunswick, but in Maine and Massachusetts it is highly esteemed as an article of food, and by many preferred to every other species of fresh water fishes, except trout; it is usually fried, the skin being first removed.

Family 3.—SALMONIDÆ.

Genus 1.—*Salmo*.Species 1.—*Salmo fontinalis*—The Brook Trout.

Nearly every lake and stream in New Brunswick and Nova Scotia, is furnished with a greater or less number of this species of the salmon family. It is taken of all sizes, from 6 to 20 inches, and is so well known, as scarcely to need a description. Its principal characteristics are—the vermillion dots and larger yellow spots in the vicinity of the lateral line, and the tri-coloured fins, these being blackish on their edges, broadly bordered with white, and the rest scarlet.

The brook trout is a migratory fish; when in its power, it invariably descends to the sea, and returns to perpetuate its species, by depositing its spawn in the clearest, coolest, and most limpid waters it can find. The opinion of Mr. Herbert, ("Frank Forrester") that there is but one distinct species of the brook trout in North America, cannot be disputed. During the last thirty years, the writer has caught many thousands of these trout, in numerous rivers, lakes, streams and estuaries, in the lower Provinces and in Maine, and can safely say, after close and attentive examination, that he has never seen but one species of the brook trout, whatever naturalists may say to the contrary.

Various causes have been assigned for the great variety in the colour of the brook trout. One great cause is the difference of food; such as live upon fresh water shrimps and other crustacea, are the brightest; those which feed upon May-flies and other common aquatic insects, are the next; and those which feed upon worms are the dullest and darkest of all.

The colour and brilliancy of the water has also a very material effect upon the colour and appearance of *salmo fontinalis*. Professor Agassiz has made some very curious experiments with respect to the colours of fishes, especially the salmonidæ; and he has ascertained beyond a doubt, not only that trout of different neighbouring waters are effected by the colour and

quality of the water, but that trout of the same river vary in colour, accordingly as they haunt the shady or sunny side of the stream.

The fish of streams rushing rapidly over pebbly beds, are superior both in appearance and quality to those of ponds, or semi-stagnant brooks. But this may arise not so much from any particular components of the waters themselves, as from the fact, that rapidly running and falling water, is more highly aerated, the atmosphere being more freely intermingled with it, and therefore more conducive to the health and condition of all that inhabit it.

The brook trout of America, says Mr. Herbert, is one of the most beautiful creatures, in form, colour, and motion, that can be imagined. There is no sportsman actuated by the true animus of the pursuit, who would not prefer basketing a few brace of good trout, to taking a cart load of the coarser and less game denizens of the water. His wariness, his timidity, his extreme cunning, the impossibility of taking him in clear and much fished waters, except with the slender rest and most delicate tackle—his boldness and vigour after being hooked, and his excellence on the table, place him, without dispute, next to the salmon alone, as the first of fresh water fishes. The pursuit of him leads into the loveliest scenery of the land; and the season at which he is fished for, is the most delightful portion of the year.

The brook trout rarely exceeds three pounds in weight; and no well-authenticated case is on record, of one of the species having reached the weight of six pounds, in these Lower Provinces.

Species 2.—*Salmo ferox*—The great grey Trout.

This fish is found in all the large lakes of New Brunswick, and in very many of those in Maine, but it is believed not to exist in the lakes of Nova Scotia; it is called by the lumberers the "togue;" the Indians designate it by a name equivalent to "fresh water cod."

It is found in great numbers and of large size in the Eagle Lakes, at the head of Fish River; in the St. Francis Lakes, from which flows the river of that name; and in the Matapédia Lake, which discharges itself into the Restigouche, and in the Miramichi Lake, at the head of that river.

In Lake Temiscouata, this fish has been taken of the weight of 21 lbs.; it is there called the "tuladi." It is often taken of the weight of 12 lbs. and upwards, in the Cheputnecticook Lakes, at the head of the eastern branch of the Saint Croix. One sporting friend informs the writer, that he caught two of these fish on the Saint Croix Grand Lake, one of which weighed 8 lbs., and the other 13 lbs.; but that he saw one, taken by a night-line, which weighed 25 lbs. Another sporting friend, a resident of New York, informs the writer that he has

visited the lakes on the western branch of the Saint Croix, where he caught several of the "togue," weighing from 4lbs. upwards. The largest he caught measured 29 inches in length, but weighed 8lbs. only, not being in good condition.

It has been found of late years, that this species of fish exists in considerable numbers in Loch Lomond, 12 miles from the City of Saint John; and they have in consequence, been sought after by sportsmen, who take them from a boat, by trolling over the deepest portions of the Loch.

A specimen of this fish, taken in Loch Lomond in 1848, was sent to the writer by Charles Johnston, Esquire, High Sheriff of Saint John, which was 24 inches in length, and weighed 7½lbs. On a careful examination and dissection of this fish, it was found to correspond exactly with the fish described by Mr. Yarrell as *salmo ferox*, the great grey trout of Loch Awe.

In Scotland, this fish is taken from a boat rowed gently through the water; the bait, a small fish guarded by several good sized hooks. They are extremely voracious, and having seized the bait, will allow themselves to be dragged by the teeth for forty or fifty yards, and when accidentally freed, will again immediately seize it. The young fish up to 3lbs. weight rise freely at the usual trout-flies; the writer has often taken them up to that weight by fly-fishing, but never larger.

When in perfect season and full grown, it is a handsome fish, though the head is too large and long to be in accordance with perfect ideas of symmetry in a trout. The colours are deep purplish brown on the upper parts, changing into reddish gray, and thence into fine orange yellow on the breast and belly. The body is covered with markings of different sizes, varying in number in different individuals. Each spot is surrounded by a pale ring, which sometimes assumes a reddish hue; the spots become more distant from each other as they descend below the lateral line, and the lower parts of the fish are spotless. The fins are of a rich yellowish green colour, darker towards their extremities. The tail is remarkable for its breadth and consequent power.

The flavour of this fish is coarse and indifferent; the flesh is of an orange yellow, not the rich salmon colour of the common trout, in good condition. The stomach is very capacious, and generally found gorged with fish; it is very voracious, and well deserves the name of *salmo ferox*.

Species 3.—*Salmo trutta*—The Salmon Trout, or White Sea Trout.

This beautiful trout abounds in the Gulf of St. Lawrence; it is found on the northern shores of New Brunswick, and in the estuaries of those rivers of New Brunswick and Nova Scotia which flow into the Gulf, and the Strait of Canso, early

in June—it is caught in nets at the Magdalen Islands in summer, and salted for export. Many sportsmen resort annually to River Philip in Nova Scotia, during the month of June, to fish for these sea-trout, which enter the estuary of the river at that season. No specimen of this fish has yet been seen in the Bay of Fundy, which it is supposed not to frequent.

The flesh of the salmon trout is of a brilliant pink colour, and most excellent; its exceeding fatness early in the season, when it first enters the mixed water of the estuaries, is such, that it can be preserved fresh but a very short time.

The body of the fish is rather deep for its length; the lateral line is very nearly straight, passing along the middle of the body, the scales adhering closely. The upper part of the head and body, a rich sea-green colour; the lower part of the sides and belly, a brilliant silvery white. The fins white, except the dorsal, which is nearly the colour of the back.

Sir William Jardine in speaking of this fish, accurately describes its habits, as observed in New Brunswick. He says,—"In approaching the entrance of rivers, or in seeking out as it were some one they preferred, shoals of these fish may be seen coasting the bays and harbours, leaping and sporting in great numbers, from about one pound, to three or four pounds in weight; and in some of the smaller bays, the shoal could be traced several times circling it, and apparently feeding."

Mr. H. Robinson Storer, during his visit to Labrador in 1849, met with a single specimen of the salmon trout of the Gulf, at Red Bay, in the Straits of Belleisle, and not being acquainted with the fish, designated it *salmo immaculatus*. The scientific description he gives, is accurately that of the *salmo trutta marina*, and is as follows:—"Colour—Silvery on sides and abdomen; darker on back; no spots. Description—Length of head, about one-sixth length of body; depth of head, two-thirds its length; greatest depth of body, directly in front of dorsal fin, equal to length of head. Upper jaw the longer. Jaws with numerous sharp incurved teeth. Eyes laterally elongated; their diameter one-third the distance between them. Opercles rounded posteriorly; lower portion of operculum naked, marked with concentric striæ; preopercle larger than in the *fontinalis*. Scales larger than those of the *fontinalis*. Lateral line commences back of superior angle of opercle, and, assuming the curve of the body, is lost at the commencement of the caudal rays. The first dorsal fin commences just anterior to median line; is nearly quadrangular. Adipose fin situated at a distance back of the first dorsal, little less than one-half the length of the fish. Pectorals just beneath posterior angle of operculum; their length three-fifths that of the head. Ventrals just beneath posterior portion of first dorsal; the plates at their base very large. The anal is situated at a distance back of the ventrals just equal to length of head,

and terminates directly beneath the adipose fin; of the form of first dorsal. Caudal deeply forked; its length equal to greater depth of body. Dorsal 9; pectorals 13; ventrals 9; anal 11; caudal 30; length, 13½ inches."

To the epicure, a fresh caught salmon trout of the Gulf of Saint Lawrence, especially early in the season, will always afford a rich treat. The sportsman will find it a thoroughly game fish, rising well at a brilliant fly of scarlet ibis and gold, and affording sport second only to salmon fishing. The writer has caught this fish, with the scarlet ibis fly, in the break of the surf, at the entrance of Saint Peter's Bay, on the north side of Prince Edward Island, of the weight of 5 lbs.; but the most sporting fishing is from a boat, under easy sail, with a "mackerel breeze," and oftentimes a heavy "ground swell." The fly skips from wave to wave, at the end of thirty yards of line, and there should be at least seventy yards more on the reel. It is truly splendid sport, as a strong fish will oftentimes make a long run, and give a sharp chase down the wind.

At Guysboro' and Crow Harbour, in the Strait of Canso, there is excellent sea-trout fishing at the end of June, as also in the Great Bras D'Or Lake, within the Island of Cape Breton. The largest sea-trout rarely exceed seven pounds weight; these are taken around the Magdalen Islands, and in the estuaries of all the rivers of the Labrador coast, from Mingan to the northern end of the Straits of Belleisle. At the entrances to many of these rivers, the sea-trout were taken in the greatest abundance, of four pounds weight and upwards, during the summer of 1851, by the Officers of Her Majesty's Sloop "Sappho," which visited the whole of that coast, as far north as Chateau Bay, under command of Captain the Honorable A. A. Cochrane.

Alluding to the sporting character of the white, or sea-trout fishing, in the Gulf of Saint Lawrence, Frank Forrester, in his "Fish and Fishing," says—"Right well would it repay some of our gallant yachters, to turn the heads of their light crafts easterly, and bear away, as the old song has it, with a wet sheet and a flowing sail, for the rock-bound shores of Nova Scotia and New Brunswick, for once there, right hospitable would they find their welcome, and their sport right royal."

Species 4.—*Salmo salar*—The Salmon.

The noble salmon, which honest Izaak Walton justly calls "the king of fresh water fish," is so well known in the North American Colonies as to need no description.

As in Europe, so in America, it is agreed that there is but one species—*salmo salar*—THE Salmon. And so also is it agreed, that the salmon of Europe and that of America, are precisely similar; the same fish identically.

The salmon enters the rivers of Nova Scotia during the latter part of April. Those rivers of New Brunswick which fall into the Bay of Fundy, the salmon enters at the latter part of May; while it seldom enters the rivers which fall into the Gulf of Saint Lawrence, until the month of June. The female salmon first enters the rivers; the male fish follows, about a month later than the female; and lastly, come the grilse, or young salmon, which continue to ascend the rivers during July and August.

Salmon swim with great rapidity, shoot up the most oblique and glancing rapids with the velocity of an arrow, and frequently leap falls 10 and 12 feet in height. It is believed, that the utmost limit of perpendicular height which a salmon can attain in leaping, is 14 feet; but their perseverance is remarkable, for although they may fail, time after time, yet after remaining quiescent for a few moments to recruit their strength, they renew their efforts, and generally succeed; but, it is said, they sometimes kill themselves by the violence of those efforts.

In New Brunswick, the salmon seldom deposits its spawn until the middle of October. Mr. Price has observed the salmon in the Miramichi, in the act of spawning, as late as the 20th of November. The fish that have spawned, generally return to the sea before the rivers become ice-bound in December; but many remain in the fresh water all winter, and go down to the sea at the breaking up of the ice in spring.

On one occasion, in the month of December, Mr. Price states that he saw fifteen large salmon, caught with a spear, through a hole cut in the ice which covered a creek above Boiestown.

Before entering the rivers, they live a while in the brackish water of the tide-ways, as they do also when they descend to the sea, to render the change from one to the other less abrupt, and to rid themselves of certain parasitical animals, which attach to them, when they remain long either in fresh water, or in salt, as the case may be.

The spawn is not deposited until the water is greatly below its summer temperature. Professor Agassiz stated personally to the writer, that 42° of Fahrenheit's thermometer, or 10° above the freezing point, was the temperature at which salmon usually cast their ova. It is absolutely necessary, that the water should be aerated, or highly supplied with oxygen; hence the salmon resort to shallow, pure water, and swiftly running streams, the rapidity and frequent falls in which, impart purity and vitality, by mingling their waters with the atmosphere.

A series of interesting and carefully conducted experiments in Great Britain, have within a few years, led to a much more accurate knowledge of the habits of the salmon, than was before possessed, and corrected many erroneous impressions. It has been found, that the eggs of the salmon are hatched in

114 days, when the temperature of the water is at 36° —in 101 days when it is at 43° —and in 90 days when it is at 45° . At the end of two months, the young fish attains the length of an inch and a quarter; at the age of six months, it has grown to the length of three inches and a quarter.

In this state the young salmon fry are called parrs, and are readily known by their silvery scales, and by their having perpendicular bars, of a dusky gray colour, crossing the lateral line. In this state, the fry remain a whole year in the fresh water, not going down to the sea until the second spring after being hatched. As they readily take both fly and bait, great numbers are often destroyed in mere wantonness; and it is desirable all colonists should know, that the destruction of these fry, (which from their dark cross-bars and small red spots like the young of trout, are supposed not to be the young of salmon) will inevitably destroy the run of salmon in any river, and tend, with other causes, to the extirpation of this magnificent fish. When parrs are taken in angling, they should, if uninjured, be immediately returned to the stream, and every true sportsman will carefully do so.

The growth of the parr is very slow, but when it has attained the length of 7 inches, a complete change takes place in its colour. The dark cross-bars disappear, as also the small red spots, and the fish assumes a brilliant silvery appearance. It then bears the outward semblance of what it really is, a young salmon, and is termed a salmon-smolt.

As soon as this change has taken place, the smolt evinces the most anxious desire to visit the sea; and it is alleged, that if it is prevented doing so, by any insuperable obstacle, it will throw itself on the bank and perish. Up to this time, the growth of the young salmon has been very slow, but on reaching the sea, it is exceedingly rapid; a smolt of six or seven ounces in weight, after two or three months absence in the sea, will return as a grilse of four or five pounds weight; this has been proved beyond all dispute. Smolts have been taken by hundreds, marked with numbered tickets of zinc attached to their dorsal fins, then set at liberty, and recaptured in the autumn of the same year, as grilse, varying from two to eight pounds in weight. These have been released with the labels unremoved, and have been seen in the spring of the third year, returning to the sea, with weight not increased; in the succeeding autumn, they have been once more taken, as full grown fish, from 16 to 25 pounds weight.

The microscopical researches of Dr. Knox have shown, that the food of the salmon, previous to its quitting the salt water, consists of the eggs of *echinodermata* and *crustacea*, this rich aliment giving the colour and flavour for which its flesh is so highly prized. This is sustained by the observations of Professor Agassiz, who states, that the most beautiful salmon trout are found in waters which abound in *crustacea*, direct

experiments having shewn to his satisfaction, that the intensity of the red colour of their flesh depends upon the quantity of *gammarinae* which they have devoured.

Fly-fishing for salmon, in Nova Scotia and New Brunswick, increases annually, as the various rivers become known, and the proper localities and seasons are ascertained. The two most noted rivers in Nova Scotia, are the Gold River, which flows into the Atlantic, west of Halifax, and St. Mary's River, to the eastward of that port. In New Brunswick, the best rivers are the South West Miramichi, from Boiestown upwards, and the Nepisiguit River, which flows into the Bay of Chaleur at Bathurst. It is known however, that there is good salmon fishing in several other rivers, of both Provinces; while it is believed, that there are many rivers, especially in the northern part of New Brunswick, yet untried, which if visited by experienced sportsmen, not afraid of rough work at the outset, would afford good sport, and heavy fish during the whole of every season.

Genus 2.—*Osmerus*.

Species 1.—*Osmerus viridescens*—The American Smelt.

This beautiful and savory fish abounds in New Brunswick and Nova Scotia; it is sometimes taken a foot in length, but its average size is about 5 or 6 inches.

Very soon after the rivers are freed in spring from their icy fetters, the smelts rush in to the smaller streams, in countless thousands, and are then taken with the most wasteful profusion. The popular name of smelt is given to this fish, from its peculiar smell, which resembles that of cucumbers; this is strongest when the fish is first taken, but it may be perceived by raising the gill-covers, after the fish has been some time out of the water.

On the gulf coast of New Brunswick, large quantities of the smelt are used every season as manure. At Miscou and other fishing stations in the Bay of Chaleur, it is taken in great numbers, with the seine, and used as bait for cod. The endless abundance of the smelt, causes it to be less valued as food, than it really deserves.

The smelt feeds largely on the shrimp. It bites readily at the hook, baited with a piece of any of the crustaceous animals, and affords endless sport to young anglers. They are also caught in thousands by fishing through holes cut in the ice, during winter, and are then greatly prized. The writer has frequently taken the smelt with a small scarlet fly, while fishing for sea-trout in the Gulf of Saint Lawrence, and they would undoubtedly furnish very pretty light sport, if other and nobler game did not exist in the same locality.

Genus 3.—*Mallotus*.Species 1.—*Mallotus villosus*—The Capelin.

This, the smallest species of the salmon family, inhabits the northern seas only, never ranging further south than the shores of New Brunswick. It is very nearly allied to the genus *osmerus*, from which however it differs in the smallness of its teeth, and in certain other particulars. Some naturalists have called this fish *salmo groenlandicus*, while others have classed it among the herring family. Cuvier has decided, that it belongs to the salmonidæ, to which it seems now settled it properly appertains.

The capelin is from 4 to 7 inches in length, the under jaw longer than the upper; the back and top of the head a dull leek green, with bright green and yellow reflections, when moved in the light; sides and belly covered with delicate and very bright silvery scales, which are dotted on the margins with black specks; the back covered with small smooth grains, like shagreen.

The manner in which the capelin deposits its spawn, is one of the most curious circumstances attending its natural history. The male fishes are somewhat larger than the female, and are provided with a sort of ridge, projecting on each side of their back bones, similar to the eaves of a house, in which the female capelin is deficient. The latter, on approaching the beach to deposit its spawn, is attended by two male fishes, who huddle the female between them, until the whole body is concealed under the projecting ridges, and her head only is visible. In this position, all three run together, with great swiftness, upon the sands, when the males, by some inherent imperceptible power, compress the body of the female between their own, so as to expel the spawn from an orifice near the tail. Having thus accomplished its delivery, the three capelins separate, and paddling with their whole force through the shallow water of the beach, generally succeed in regaining once more the bosom of the deep; although many fail to do so, and are cast upon the shore, especially if the surf be at all heavy.

The Rev. Mr. Anspach, in his work on Newfoundland, thus describes the arrival of the capelin schull at Conception Bay, where he resided for some years:—

"It is impossible to conceive, much more to describe, the splendid appearance, on a beautiful moonlight night, at this time. Then, the vast surface of the Bay is completely covered with myriads of fishes, of various kinds and sizes, all actively engaged, either in pursuing or avoiding each other. The whales, alternately rising and plunging, throwing into the air spouts of water; the cod-fish, bounding above the waves, and reflecting the light of the moon from their silvery surface; the capelins, hurrying away in immense shoals, to seek a refuge on the shore, where each retiring wave leaves multitudes skipping upon the sand, an easy prey to the women and children, who stand there with barrows and buckets, ready to seize upon the precious and plentiful booty; while the fishermen in their skiffs, with nets made for that purpose, are industriously engaged in securing a sufficient quantity of this valuable bait for their fishery."

Like the common smelt, the capelin possesses the cucumber smell; but it differs from the smelt in never entering fresh water streams.

As an article of bait for cod, and other fish of that class, the capelin is of much importance; wherever abundant, the cod fishing is excellent. It has been found as far north in the arctic regions as man has yet penetrated; and it forms so important an article of food in Greenland, that it has been termed the daily bread of the natives. In Newfoundland, it is dried in large quantities, and exported to London, where it is sold principally in the oyster shops.

Genus 4.—*Coregonus*.

Species 1.—*Coregonus albus*—The White Fish.

This fish, the celebrated *attihawmeg* of the great northern lakes, so frequently described by arctic voyagers as the most delicious of all purely fresh water fishes, is found in considerable numbers in Lake Temiscouata, where many are taken every autumn by the French Canadians, who come over from the Saint Lawrence to fish for them, and call them *poisson pointu*; the English lumbermen call them "gizzard-fish." They are taken occasionally along the Madawaska River; and the writer has caught them with rod and line below the falls of that river, at its confluence with the Saint John, in the early part of summer. At these falls, the inhabitants take about forty barrels every autumn, which are cured in pickle for winter use.

The white fish abounds in all the Eagle Lakes, at the head of Fish River, a tributary of the upper Saint John, and also in the Saint Francis Lakes, at the head of that tributary. In these lakes, it is caught abundantly, every autumn, during the night, by torch-light, with dip-nets. It has not been observed in any of the lakes or rivers which discharge into the Gulf of Saint Lawrence, nor yet in any of the waters of Nova Scotia.

Some years since, this fish was abundant in the Grand Lake, where the writer in the month of May, saw great numbers taken out of gill-nets set for gaspereau, and thrown away by the fishermen as worthless. At the same time the writer caught a number of them, with rod and line, in one of those small pieces of water connected with the Grand Lake, usually called "key-holes." It is occasionally taken in the Saint John, throughout its whole extent; in the Harbour of Saint John, in spring, it has been often caught in the seines and weirs, with the gaspereau, and salted with that fish, from the want of knowledge of its worth. James Brittain, Esquire, of the Nerepis, states, that he takes a number of white fish every season, in his salmon nets, at the mouth of that river—and that they enter it, in large shoals, every season, at the end of March, or early in April, he having seen them through the ice.

In June, 1851, several very fine white fish, weighing nearly three pounds each, were caught in a gill-net, in Darling's Lake, near Hampton Ferry.

It is very probable, that the fish of this species found in the lower part of the Saint John, have ventured out of the great lakes, at the sources of its upper tributaries, and been swept over the Grand Falls, by some extraordinary flood; once over those falls, there is no possibility of return.

The white fish seen by the writer have seldom exceeded a pound and a half in weight; but they are taken in Lake Temiscouata of the weight of three pounds, and even more. It is an inhabitant of all the interior lakes of America, from Lake Erie to the Arctic Sea; several Indian tribes mainly subsist upon it, and it forms the principal food at many of the fur posts, for eight or nine months of the year, the supply of other articles of diet being scanty and casual. Its usual weight in the northern regions is from two to three pounds, but it has been taken in the clear, deep, and cold waters of Lake Huron, of the weight of thirteen pounds. The largest seen in the vicinity of Hudson's Bay, weighed between 4 and 5 lbs., measured 20 inches in length, and 4 in depth. One of 7 lbs. weight, caught in Lake Huron, was 27 inches long.

Very recently, the writer had an opportunity of seeing some fresh specimens of the white fish of Lake Erie, and was perfectly satisfied of their identity with the "gizzard-fish" of the Saint John, and Lake Temiscouata.

During the summer, the white fish is not seen in Lake Temiscouata, and it is then supposed to retire to the depths of that unusually deep and cold lake. In October, it draws near the shores, and ascends the Tuladi River, for the purpose of spawning. It ascends the river during the night, and having deposited its spawn, returns as quickly as possible to the lake. It is when this fish draws near the shore, prior to spawning, that the fishery is carried on, chiefly at a little bay in Lake Temiscouata, into which the Tuladi discharges its waters. At the same time, the great grey trout (*salmo ferox*) follows the white fish to the shore, and preys upon it. While the nets are set for white fish, the fishers, with torch and spear, attack and capture the *salmo ferox*, frequently of large size; and hence this latter fish has acquired the name of "tuladi," from the river to which it is attracted by its favourite prey.

The white fish feeds largely on fresh water shell-fish, and shelly mollusca; its stomach thereby gains an extraordinary thickness, and resembles the gizzard of a fowl, hence its popular name of "gizzard-fish." The stomach, when cleaned and boiled, is a favourite morsel with the Canadian voyageurs.

Family 4.—CLUPEIDÆ.

Genus 1.—*Clupea*.

Species 1.—*Clupea elongata*—Common American Herring.

As the herring of North America has been found to differ greatly from the herring of Europe, (*clupea harengus*,) the

naturalists of the United States have distinguished it by the name of *clupea elongata*. Fishermen designate it by the name of "blue-back," and sometimes they call it the "English herring;" very often, they add the name of the locality where it is taken, to distinguish particular varieties.

The statements made by the older naturalists, as to vast armies of herrings coming down annually from the Arctic Ocean, and making the circuit of the seas, is now supposed to be wholly imaginary. It is generally believed, at present, that the herring fattens in the depths of the ocean, and approaches the shore in shoals, merely for the purpose of depositing its spawn. In this opinion, Mr. Yarrell fully coincides, and there can scarcely be a better authority. It is quite certain, that the common herring is caught on the shores of New Brunswick during every month of the year, which quite precludes the idea of its being a migratory fish.

It is found everywhere on the coast of Nova Scotia; and from the information obtained by the writer during his official inspection of the fisheries; it appears certain, that there are several varieties of the common herring, some of which spawn early in the spring, and others in August and September; also, that the quality varies very considerably in different localities. The habits, haunts, and seasons, of this fish are only beginning to be understood, and accurate observations on these, would be highly useful to all who are interested in the herring fishery.

Species 2.—*Clupea minima*—The Britt.

Dr. Storer, in his Report on the Fishes of Massachusetts, says that this pretty little specimen of herring is found, at certain seasons, in incredible numbers, on the coast of that State, and serves as food for several other species of fish. It varies in length, from one to four inches; the back, nearly black; the upper parts of the sides, dark green; sides silvery, with roseate and golden reflections.

The fishermen of the Bay of Fundy speak of this fish, as having been formerly very abundant, but now seen only occasionally. As the writer has not been fortunate enough to see a specimen, he cannot describe it from his own observation. It is said to be frequently met with in the Gulf of Saint Lawrence.

Genus 2.—*Alosa*—The Shad.

Species 1.—*Alosa sapidissima*—The American Shad.

The shad of America, like the common herring, having been found to differ materially from the shad of Europe, has received a distinct name; the designation given by Wilson, and adopted by Dr. Storer, *alosa sapidissima*, is here followed.

Unlike most fish which frequent the northern seas, this species comes from the south to deposit its spawn. Dr. DeKay,

in his Report on the Fishes of New York, says he infers this to be the fact, from the order of its appearance along the American coast. At Charleston, shad appear in January; at Norfolk, in February; on the coast of New York, at the latter end of March, or beginning of April; at Boston, in the latter part of April. In the Bay of Fundy, they seldom appear until the middle of May. The first fish which arrive, ascend the River Saint John to spawn; it is believed, that they remain in the fresh water no longer than is necessary to deposit their ova, and then proceed up the Bay of Fundy, to their favourite feeding grounds, there to fatten upon the shrimp and "shad-worm," until they attain that degree of excellence which renders them so much sought after. The other shad, which are found in the autumn upon the same feeding grounds, and in which no roe has yet been seen, are probably fish that have not attained a sufficient age for spawning, as those which ascend the river for that purpose, are of large size and apparently old fish.

The body of this fish is deep and compressed; its length varies from one to two feet. The width across the body, from the commencement of the dorsal fin, to the anal, is nearly equal to one-fifth the length of the fish. Abdominal ridge serrated throughout; the whole body covered with large deciduous scales, except the head, which is naked. The usual weight of this fish is from one to four pounds, although it sometimes attains the weight of six pounds.

Mr. Herbert (Frank Forrester) in his "Fish and Fishing," speaking of the shad, says:—

"This delicious and well known fish, which is by many esteemed the queen of all fishes on the table, has been, until very recently, regarded as one that could be taken only with the net, and therefore of no avail to the angler. It is now, however, clearly proved, that like the herring, the American shad will take a large gaudy fly freely, and being a strong, active, and powerful fish, affords great play to the sportsman.

"It is indisputably true, that on his entrance into fresh water from the salt, for the purpose of spawning, the shad will readily take a gaudy fly, the more readily the higher he runs up into the cold and highly aerated waters, in the upper parts of our large rivers.

"The flesh of the shad is, perhaps, the most delicate of any existing fish; and, though it lacks the lusciousness, as well as the glutinous fin of the turbot, it is preferred to that fish by many judicious epicures, notwithstanding the drawback occasioned by its innumerable and sharply-pointed bones.

"From personal experience and success, I can assure the fly-fisher, that he will find much sport in fishing for the shad, during his upward run in the spring, with a powerful trout-rod, a long line, and the proper flies."

Of the sea shad, none are so fine as those taken at the head of the Bay of Fundy, in the muddy waters of which they attain the highest perfection, owing to the great abundance there of their favourite food, the "shad-worm" and the shrimp. The shad is but rarely seen on the Atlantic coast of Nova Scotia; it is found in the Gulf of Saint Lawrence, the various rivers of which it ascends, as far north as the Miramichi, which seems to be its limit in that direction, none having been seen in the Bay of Chaleur.

The shad enters the Miramichi in the latter part of May, and remains until the middle of July; occasionally it ascends the South West as far as Boiestown, but the greatest numbers

are found below the mouth of Etienne's River, always resting in deep, quiet water. The shad which frequent the Gulf are greatly inferior to those taken in the Bay of Fundy.

The shad which ascend the Saint John, resort for spawning to Darling's Lake, (Kennebecasis,) Douglas Lake, (Nerepis,) the Washademoac Lake, the Ocnabog Lake, the Grand Lake, and the Oromocto River. They are caught in the Saint John near Fredericton, but not above, the water being too rapid. The shad taken in the fresh water, are very inferior to those which remain exclusively in the salt water of the Bay, and the longer they are in the river, the more worthless they become.

Species 2.—*Alosa tyrannus*—The Gaspereau, or American Alewife.

The alewife appears in great quantities in the Chesapeake, in March; at New York, it appears with the shad. The earliest fish appear in the Harbour of Saint John, in April, but the main body does not enter the river before the 10th of May. It would therefore appear, that the alewife also comes from the south, like the common shad, to deposit its spawn in northern rivers.

The usual length of this species of shad, which is best known in New Brunswick and Nova Scotia by the name of gaspereau, is from 8 to 10 inches; the back a blue green, approaching to purple; sides, silvery. The head, dark green above, and the tip of the lower jaw of the same colour; opercles, yellow.

In the Bay of Fundy, this fish is abundant; in the Gulf of Saint Lawrence, it is less plentiful, and of much smaller size; in the Bay of Chaleur, it has not yet been noticed, and like the shad, the Bay of Miramichi would seem to be its extreme northern limit.

The catch of gaspereau in the Harbour of Saint John, varies from 12,000 to 16,000 barrels each season, and sometimes reaches 20,000 barrels. It ascends the Saint John to the same localities as the shad, in order to deposit its spawn. In the Miramichi, it ascends to the source, and spawns in the Miramichi Lake.

Species 3.—*Alosa menhaden*—The Mossbonker.

This fish is known by a variety of popular names, among which are "bony-fish"—"hard-head"—"pauhagen"—and "menhaden." It is seldom eaten, being dry, without flavour, and full of bones. On the coast of the United States, it is used as bait for cod, and also extensively as manure, for renovating old grass fields, but not without injury to the health of those who reside in the vicinity. The mossbonker is sometimes caught in the weirs, within the Harbour of Saint John, in considerable numbers; it has occasionally been sold to the

ignorant as fall shad, to which it bears some resemblance. The mossbonker is exclusively a sea fish, never entering the fresh water.

Species 4.—*Alosa mottowaca*—The Autumnal Herring.

Dr. DeKay says the autumnal, or fall herring, or "shad herring," is a common fish at New York; he has adopted the designation of that excellent naturalist Dr. Mitchell, who having first observed this fish at Long Island, near New York, conferred upon it the aboriginal name of the Island—*Mattowaka*.

A careful examination has been made of the "Quoddy herring," taken near Campo Bello, and it has been found to correspond so exactly with the description given by Dr. DeKay, that the writer, until better informed, ventures to class it as a member of the shad family. In flavour and excellence, it ranks only second to the best shad of the Petitcodiac. It is exclusively a sea fish.

All the members of the shad family are serrated, or toothed like a saw, on the belly, which is carinate, or shaped like a keel.

ORDER 3.—Fishes with ventrals under the pectorals, and the pelvis suspended to the shoulder bones.

Family 1.—GADIDÆ.

This family is one of the most important to man in the whole class of fishes.

Genus 1.—*Morrhua*—The Cod.

Species 1.—*Morrhua vulgaris*—The common Cod.

Species 2.—*Morrhua Americana*—The American Cod.

The first of these two species is the common cod of Newfoundland, well known as an article of food, the wide world over. Among fishermen, it is designated the bank cod; it is taken in deep water off the coast of Nova Scotia, and also in the entrance to the Bay of Fundy, between Brier Island and Grand Manan. It is always a thick, well-fed fish, and often attains a great weight, sometimes 70 or 80 pounds, and even more. The colour varies much in individuals, but is generally a greenish brown, fading into ash colour when the fish is dead, with many reddish yellow spots; the belly, silvery opaque white; the fins, pale green; the lateral line, dead white.

This fish is taken from the coast of Maine northwardly, as far as man has penetrated. Captain James C. Ross states, that on the west coast of Greenland, in latitude 66° 30' north, a number of very fine codfish were caught by the crew of the "Victory," on a bank consisting of small stones, coarse sand,

and broken shells, with 18 to 30 fathoms over it. At the Peninsula of Boothia, Captain Ross purchased cod from the Esquimaux, who caught them through holes in the ice.

The Commissioners of British Fisheries, in their Report to Parliament for the year 1846, state that two vessels in that year, proceeded for the first time, from the Shetland Islands to Davis' Straits, for the prosecution of the cod fishery, and were very successful, the number of fish taken having been 29,403 cod. The fish were caught in the ordinary manner, with hand-lines and bait. So plenty were they in some places not far from the shore, that they were caught with *raspers*, or by letting down and drawing up a line with several bare hooks fixed thereon, tied back to back. The fish were, however, chiefly caught upon a bank, with a depth of water from 15 to 40 fathoms, in latitude 66° and 67° north, and 55° west longitude, from 30 to 40 miles off the land. The codfish were in so great abundance, that nearly 2000 fish were caught by the 20 men on board, in the course of 24 hours; the whole quantity was fished in 28 days, being an average daily catch of 1000 fish. Some of the fish, when taken out of the sea, weighed about 80lbs., and when dressed, about 30lb. They were of excellent quality, and their livers were so rich, that they were preserved, with the firm conviction they would produce six tons of oil. In 1847, another successful attempt was made by a vessel from Lerwick, to prosecute the cod fishing at Davis' Straits. The vessel reached the fishing ground on the 23d of June, and continued to fish until the 16th of August, during which time 42,143 cod were caught. This was considerably above the take of the previous year, and but for stormy weather, the voyage would have been even more successful.

In September 1851, the writer saw in the fish market of Halifax, a bank cod weighing 55lbs. It was a female fish, not in good condition, having nearly finished spawning. The fisherman stated, that it was taken off Halifax Harbour, about ten miles from land, in four fathoms water, on a bank to which the cod resort for spawning in August and September. The largest cod of this species brought into Halifax market, during the season of 1851, weighed 86lbs.

The second species named above, the American cod, is slightly, though permanently, distinct from the common or bank cod. The back is of a light olive green, (becoming pale ash in the dead specimens) covered with numerous reddish or yellowish spots, to a short distance below the lateral line, which is an opaque white throughout its whole extent.

There are several varieties of the American cod, the most usual of which are the *arenosus*, or shoal cod of Dr. Mitchell, with a greenish brown hue, and inconspicuous spots; and the *rupestris*, or rock cod of the same author, of a smaller size, with a reddish hue, occasionally a bright red, very numerous

on the whole coast of Nova Scotia, and in the vicinity of Grand Manan. Fine specimens of this variety may be seen in the fish market of Halifax, during the season; their quality is admirable.

The southern limit of the American cod is New York; thence it ranges northwardly, along the whole coast of North America, to the Saint Lawrence.

It is believed, that there are several species and varieties of cod, within the Gulf of Saint Lawrence, and especially on the coast of Labrador; but these have not yet been examined with precision. In the Gulf, deformed fish are of common occurrence, the deformity frequently consisting in a fore-shortening of the head, whence the fishermen call them "bull-dogs."

The cod is an exceedingly voracious fish. It attacks indiscriminately every thing in its way, devouring smaller fish, crustacea, and marine shell-fish. Its stomach is the great repository, from which naturalists have lately obtained so many rare and undescribed species of shells, inhabiting deep water, and which are unattainable by any other means.

A fisherman at Brier Island assured the writer, that he had often seen the cod in shoal water, with their heads straight down and tails up, working mussels and clams off the bottom.

Species 3.—*Morrhua pruinosa*—The Tomcod.

This fish ranges the whole American coast, from New York northwardly; it is taken on the shores of Nova Scotia and New Brunswick, throughout the year. It frequently ascends rivers, even into fresh water.

The head is small, and flattened above; the abdomen prominent; the tail long and slender; the cheeks lustrous. It varies in length from 4 to 12 inches. The colours of the tomcod vary greatly, scarcely any two individuals being exactly alike; five varieties have been noticed, and it is thought the number may be still further increased. It is a savory fish, and may be taken in large quantities with the greatest ease. As it seizes almost any bait greedily, it is a great source of amusement to juvenile anglers everywhere.

In the early part of winter, after the first severe frost, it becomes very abundant in the mixed waters of estuaries, and hence the name of "frost-fish" which is frequently applied to it. At that season, it is in fine condition, and is consumed in large quantities. Dr. Storer states, that no less than 2000 bushels of this fish, are sent annually from Watertown alone, to the Boston market, and there meet a ready sale.

Species 4.—*Morrhua æglefinus*—The Haddock.

This fish is found everywhere on the American coast, north of New York. Its distinctive colouring is blackish brown above, and silvery gray below the lateral line, which is jet black. The

back and sides are varied by purplish and gold gleams, which disappear very soon after the fish is dead. The body of the fish is stout forward, and tapering backward; the head large and arched; the eyes large; the lower jaw the shortest.

This is an exceedingly fine fish when eaten fresh, or when slightly salted and smoked, in the same manner as the Finnan haddocks of Scotland. It is too thin a fish for salting and drying like the cod, and has only half the commercial value.

The haddock spawns early in spring, and the young are said to be six inches long in September. Their food is small fish, crustacea, and almost any of the inferior animals of the deep, even the spiny aphrodita. They are in best condition for table in the latter part of the season.

Haddocks swim in immense shoals, and are prone to change their ground after having arrived. When their numbers are considered, the consumption of food, even in a short space of time, must be enormous; and this may be one powerful reason for their seeking new localities.

The haddock is a favorite object of pursuit, with those who follow deep-sea fishing as an amusement. Haddock fishing may be pursued with the greatest comfort and convenience, by the amateur fisherman, in Quoddy River, between Campo Bello and Eastport—in the Basin of Annapolis, near Digby—and in the Harbour of Halifax. In each of those localities, the fish are of excellent quality, and most abundant.

After describing the usual tackle for this fishing, Frank Forrester says—"With this, in any eastern water, you may rest assured of returning home with a boat-load of fish, a set of very weary limbs, a pair of very sore hands, and an enormous appetite, of which, *me judice*, the first and last alone are desirable."

Genus 2.—*Phycis*.

Species 1.—*Phycis Americanus*—The American Hake.

The geographical range of this fish appears to be from Cape Cod, northwardly. It is taken largely on muddy bottoms, both in the Bay of Fundy and in the Gulf of Saint Lawrence, chiefly by fishing during the night, at which time it feeds on the smaller crustacea, with which its stomach is generally found to be filled. In the Gulf of Saint Lawrence, and Bay of Chaleur, it is invariably called "ling," under which name, when salted and dried, it is exported by the Jersey merchants, who have fishing establishments there, and who probably introduced the name.

This fish is frequently taken of the length of three feet, especially in the Gulf; it is of a reddish brown colour, with slight metallic reflections on the cheeks, and a dark patch beneath the orbits; abdomen lighter, mixed with gray. It has one barbule under the chin; the ventral fins are simple rays, divided or forked, one of the divisions longer than the other.

Head pointed, flattened above; snout prominent; the upper jaw projects beyond the lower; both jaws are arched with several rows of sharp, incurved teeth, which render necessary an armature of six or eight inches above the hook, as this fish readily bites off a common cod-line.

Genus 3.—*Merlucius*.

Species 1.—*Merlucius albidus*—The Silver Hake.

This fish has the same geographical range as the American hake last mentioned. It is abundant around the Island of Grand Manan, and is there known as the silver hake; in the market of Saint John, it is sold under the name of "whiting."

When quite fresh, it is an exceedingly sweet and palatable fish, but it soon becomes soft and tasteless. As it is never salted, the fishermen attach no value to it whatever. At Grand Manan, the silver hake, of small size, is often taken in the herring nets, in which it becomes entangled while pursuing its prey. The writer observed the fishermen at Grand Manan throwing away this fine fish by dozens, when clearing their herring nets. It is a most voracious fish, as implied by its name, *merlucius*—the sea pike.

The head and upper part of the body are of a dull lead colour; the sides and abdomen white. The eyes are very large, the pupils black, the irides silvery. There is a sensible depression on the top of the head between the eyes. The lower jaw is the longest; both jaws are armed with ill-defined series of very sharp recurved teeth, some of which resemble the fangs of serpents; these long fang-like teeth are distant, the intervals being filled up with smaller teeth.

This fish is from one to two feet in length, and is of roving habits, following the shoals of herrings, of which it devours great quantities. It has been generally confounded with *merlucius vulgaris*, the common hake of Europe, but Dr. DeKay considers it distinct by its radial formula, long palatine teeth, deeply concave caudal, and other particulars; he, therefore, confers upon the American species the name of *albidus*.

Genus 4.—*Merlangus*.

Species 1.—*Merlangus carbonarius*—The Coal-fish or Pollack.

According to Dr. DeKay, this is one of the few oceanic fishes which range on both sides the Atlantic. It is a northern fish, and the coast of New York is assigned as its southern limit, on this side the Atlantic. It is found far to the north, and was the only fish met with by Lord Mulgrave on the shores of Spitzbergen; the fry, only 4 or 5 inches in length, were caught with the trawl net on the west coast of Davis' Straits, during the first voyage of Captain Sir Edward Parry.

The writer has not seen in the Gulf of Saint Lawrence a single specimen of this fish; nor has he ever met a fisherman who had taken one within the Gulf, except near the northern end of the Strait of Canso. In the Bay of Fundy, the pollack abounds almost everywhere, except in the muddy waters of Cumberland Bay, and the Basin of Mines.

The head and body of this fish are elegantly shaped; from its beauty of form, and quickness of motion, the Bay of Fundy fishermen often call it the "sea-salmon."

The upper part of the head, and the back above the lateral line, are almost black; beneath that line, (which is silvery white) the fish is much lighter in colour, becoming greyish white, with golden reflections on the sides and belly; the head tapers to the snout; the upper jaw rather the shortest; the mouth black; the teeth very small.

From almost every projecting point in the Bay of Passamaquoddy, where there is a run of tide, young pollack may be taken during the summer, with rod and line, very rapidly, either with bait, or any gaudy artificial fly, even of rude construction. The most attractive is the scarlet ibis with gold, the same as used in the Gulf for white sea-trout.

The season for spawning is early in spring; in the early part of summer, the fish is lank and almost worthless. It becomes in good condition in August, and improves as the season advances; it then prowls after prey in large companies. It swims at no great depth, and when attracted by bait, will keep near a boat or vessel until all are taken.

Pollack fishing may be considered the most valuable and extensive of the deep-sea fisheries of the Bay of Fundy.

Genus 5.—*Brosmius*.

Species 1.—*Brosmius vulgaris*—The Torsk, Tusk, or Cusk.

This is a northern fish, and its southern limit on the North American coast, is Massachusetts Bay; even in the Bay of Fundy it is not very abundant. It is taken in deep water while fishing for cod, and is said to prefer a rocky bottom on which sea-weed grows. Its usual length is from 18 inches to 3 feet, which it rarely exceeds.

The colour of the body is a uniform dark slate, the head rather darker than the body. The mouth large, the jaws filled with large, recurved teeth; the upper jaw is a very little longer than the lower; a single barbule under the chin. The dorsal fin begins well forward on the fish, and terminates just in front of the tail; the anal fin is continued to the tail and nearly joins it. The caudal fin is round, and like the dorsal and anal fins, is margined with blue and edged with white. This latter peculiarity renders the torsk, or cusk, easily distinguished among all other members of the cod family.

Dr. Storer is of opinion, that the torsk of America cannot be distinguished from the torsk of Europe, although LeSueur conceives there is a difference, and designates the American species *B. flavescens*. In Europe this fish rarely appears below 60°, or above 73°, north latitude. It is plentiful on the coast of Norway, as far as Finmark, and also on the west and south coast of Iceland, but rare on its north and east coast.

The fish of this species taken in the Bay of Fundy, are usually caught in the latter part of winter, or early spring. When eaten fresh, it is very fine, but rather tough; it is therefore generally preferred after being dried. It then swells much in boiling, and parts into very thick flakes. In Boston, this fish is considered a delicacy, and when dried, is by many thought preferable to cod.

Genus 6.—*Lota*.

Species 1.—*Lota maculosa*—The Spotted Burbot, or Fresh-water Cusk.

This is the only member of the cod family which resides permanently in fresh water. Some hundreds are taken annually in the River Saint John, by night-lines dropped through the ice, at the beginning of winter. Many are thus taken near Fredericton, but the best fishing ground is on the sand-bars, a little above the mouth of the Oromocto River, where this fish resorts previous to its spawning, which takes place in February or March.

The length of the fresh-water cusk, is from 18 inches to 2 feet. The body is compressed, and somewhat eel-shaped; the head broad, depressed; jaws nearly equal; the gape large. The teeth are in the jaws, small and recurved, distributed in bands. The colour of the body is a yellowish brown, clouded and spotted with darker brown spots, and it is covered with a mucous secretion. The fins partake of the colour of that part of the body from which they emanate, those of the lower surface being much the lightest.

In July, 1841, the writer caught one of this species of fish on a night-line in Lake Temiscouata, which weighed seven pounds. It is abundant in that lake, and also in the Eagle and Saint Francis Lakes already mentioned, in common with the "white-fish," and "great grey trout."

Dr. Richardson (*Fauna Boreali Americana*) says it is common in every river and lake, from Canada to the northern extremity of this Continent. The Cree Indians call it the "methy;" the Canadian voyageurs name it "la locke," and by these two names it is known in the fur countries. Within the limits of the United States, it is called the "eel-pout." It is very voracious, feeding on smaller fish, and cray-fish; these last abound in Lake Temiscouata. Dr. Richardson says he opened several of these fish taken at Pine Island Lake, in the

month of March, which were filled with cray-fish to such a degree, that the form of their bodies was quite distorted, the soft integuments of their bellies admitting of great dilatation.

The flesh of the "fresh-water cusk," is white, firm, and of good flavour; the liver and roe are considered delicacies. When well bruised and mixed with a little flour, the roe can be baked into very good biscuits, which are used in the fur countries as tea bread.

This fish is not unlike the eel in many of its habits, concealing itself under stones, waiting and watching for its prey; it feeds principally at night, and is therefore generally taken by night-lines.

Family 2.—PLEURONECTIDÆ—The Family of Flounders.

POPULARLY CALLED FLAT-FISH.

The peculiarities of this family are thus described:—"Body flat, compressed vertically; upper surface dusky, and of various colours; beneath, white; dorsal single, extending the whole length of the back; both eyes placed on the same side of the head; no air-bladder; branchial rays, six."

With such peculiar characteristics, the members of this family are readily recognized everywhere. In some of the members, the eyes are placed on a different side from their usual situation, and these are termed, *reversed* individuals; more rarely it happens, that both sides are coloured, when they are said to be *doubled*. As some confusion has arisen, as to whether a fish is right or left, *dextral* or *sinistral*, the following is the rule adopted. The fish is placed on its edge with the tail to the observer, and the dorsal fin uppermost; the fish is then said to be *dextral* or *sinistral*, according as the coloured side is on the right, or left hand.

All the fishes of this family are very tenacious of life.

Genus 1.—*Hippoglossus*.

Species 1.—*Hippoglossus vulgaris*—The Halibut.

This is a very large fish; it is found on the coast of North America, from Nantucket to Greenland; and is frequently taken of the weight of 200lbs. Dr. Storer mentions one of these fish brought into Boston market, that weighed 420lbs. after the head and bowels were removed; and another, that weighed upwards of 600lbs., which was taken on a bank, sixty miles south east of Portland, Maine.

The halibut is very voracious; it swims near the ground, and devours other flat-fish, as well as shells and crustacea. In summer, it is caught in shallow water, and often quite near the shore; in winter it retires to deep water. The flesh is rather coarse and dry, but it is much esteemed by many; the fins and flaps are delicacies, if the fish is in good condition.

When the fishermen of the Bay of Fundy take a number of these fish at one time, they salt the flesh lightly, and then dry and smoke it for winter use.

On some parts of the coast of Nova Scotia, this fish is found in such abundance, and of so large size, that the localities are avoided by those engaged in cod-fishing, as a boat, or small vessel, becomes soon heavy laden.

Both eyes, and the colour of the halibut, are on the right side; but Dr. Storer mentions, that reversed specimens are sometimes met with, and says he examined a fish of this species, in Boston market, weighing 103lbs., with the left side coloured, and bearing the eyes.

Genus 2.—*Platessa*.

Species 1.—*Platessa plana*—The common Flounder.

2.—*Platessa pusilla*—The Sand-flounder, or small dab.

3.—*Platessa limanda*—The Fleuk, or common dab.

These several species of flat-fish are found everywhere on the coasts of New Brunswick and Nova Scotia; very likely, other species exists, and will be hereafter noticed.

The first, or common flounder, is from 6 to 18 inches in length; the eyes and coloured surface are on the right. The colour is variable; some are greenish, others slate-coloured, but generally, rusty-brown prevails. In Boston, this fish is called the "winter flounder," and its flesh is highly prized. In the tide-way of the Miramichi, this fish is taken with the hook, during winter, through holes cut in the ice.

The next species, the sand-flounder, or small dab, is a little fish, from 4 to 6 inches in length, nearly of a uniform olive brown; the eyes and coloured surface on the right; found in shallow and sandy bays and coves. It is very abundant during summer, on the sands to the eastward of the City of Saint John, and is taken at low water by hundreds, in the shallow pools of the estuary of the Marsh Creek. The shrimp-fishers on those sands, also take them in great numbers in their shrimp-nets.

The third species, the fleuk, or common dab, as it is called in Scotland, also abounds. It is generally taken towards autumn, when it approaches the shores prior to spawning. Several of this species were taken by the writer in October, 1850, in the upper part of the Bay of Fundy, near Parrsborough; it was found a very sweet and delicate fish, eaten fresh. It is readily distinguished from the common flounder, by its more uniform and lighter brown colour, its more curved lateral line, and the greater roughness of the scaly surface. The eyes and colour are on the right side; it is from 8 to 12 inches in length.

Another small flat-fish was observed by the writer, at Point Miscou, in August 1849, where it was taken in a smelt-seine,

the smelt being used there as bait for cod. It had several of the characteristics of the European plaice; but as it was evidently the young of a larger fish, no decided opinion could be formed.

Family 3.—CYCLOPTERIDÆ—The Lump-fish Family.

Genus 1.—*Lumpus*—The Lump-fish.

Species 1.—*Lumpus vulgaris*—The common Lump-fish.

This fish is characterized by the ventrals being united in a disc, or cup-shaped form. The body is deep and rough, with bony tubercles; it is soft and flaccid, resembling a lump of jelly. By means of its cup-shaped ventrals, it adheres so firmly to any solid substance, as to be removed with difficulty.

The lump-fish varies in length from 10 to 20 inches. It is a native of the northern seas, being found abundantly on the coast of Greenland. The coast of New York is the most southern limit in which it has yet been observed. On the coast of Massachusetts Bay, it is frequently taken, from 3lbs. to 15lbs. weight, but there it is never used as food. Dr. Storer says the specimens taken there, are of a bluish slate-colour on all the upper part of the body, the under part yellowish. The whole appearance of this fish, he says, is very forbidding; the younger specimens being a soft, gelatinous mass, the older, much firmer, but both covered with firm, horny spines.

This fish has been frequently noticed in the vicinity of Grand Manan, attached to, or immediately beneath, large masses of floating sea-weed. Small specimens are frequently taken in the weirs, within the Harbour of St. John, which the fishermen throw away as worthless.

In the spring, the lump-fish approaches the shores to deposit its spawn; it is then taken in considerable numbers near the Harbour of Halifax, the largest weighing about five pounds. They are taken there of two different colours; the one variety being of a dark blue, approaching to black, and the other quite red. Those of a red colour only, are used as food; they are considered good by many, although very fat, and somewhat oily. The dark-coloured variety is considered very inferior, and is not eaten.

Mr. Yarrell notices this difference in colour in the lump-fish, and also in the quality of its flesh, which he says is only the effect of season; the fine external colour, and the firmness of the flesh, being lost for a time by the exhausting process of spawning. When dark-coloured, the fishermen designate it the "worthless blue-lump."

The North American lump-fish (or lump-sucker as it is sometimes termed) is considered identical with the like fish, caught on the shores of Great Britain. It feeds principally on young fish, of which it devours great quantities.

ORDER 4.—Apodal, without ventral fins.

Family 1.—ANGUILLIDÆ—The Eel Family.

Genus 1.—*Anguilla*—The Eel.Species 1.—*Anguilla vulgaris*—The common Eel.

The eel inhabits both fresh and salt water, and is taken in every situation in these Colonies which it can reach. Its colour is greenish olive above, yellow beneath; this colour extending along the base of the anal fin, nearly to the end of the tail. It is caught in a variety of ways; but taking the eel with hook and line, is considered much too tedious and troublesome. In summer, it is caught in long round Indian baskets, called eel-pots; it is also taken by torch-light, with the spear. In winter it is taken through holes in the ice, by spearing it in the mud, where it then lies torpid. The places where this fishing takes place are generally well known, and are termed "eel-grounds."

It is very voracious, feeding on aquatic insects, small fishes, and all dead animal substances that come in its way. The structure of its branchial pouches enables it to live out of water for a long time; and as it can move along the ground, it is not uncommon to find the eel shifting its quarters from one creek or lake to another, by crawling through the grass.

The common eel, when in good condition, is a very excellent, well-flavoured fish. It varies greatly in size, being taken from 6 inches to 2 feet or more in length.

Dr. DeKay says he has examined the "silver eel," so called, and considers it only a variety of the common eel. Its general colour is silvery gray, darker above, and a clear white belly shining like satin.

Species 2.—*Anguilla oceanica*—The Sea Eel.

Dr. DeKay gives this name to a sea eel found on the coast of New York, which the writer has also noticed in the Gulf of Saint Lawrence. It is described as brownish on the back; pale on the sides; beneath, smutty white; fins tipped with bluish white, or pale blue. It was first observed in June 1842, at Lennox Island in Richmond Bay, on the north side of Prince Edward Island. The Indians had there taken several with torch and spear, which were three feet in length. A specimen was also shown to the writer at Pokemouche, (north of the Miramichi,) in October 1849, by a Micmac Indian, who had split, salted, and smoked it. In that state, without the head, it was about the size of an ordinary smoked salmon, and fully as thick; it was taken in Poke mouche Gully, by torch-light, with a basse spear.

The Micmacs say, that this eel is exceedingly shy, and cannot be induced by any means to enter an eel-pot. Those seen by

the writer were excessively fat, the flesh very white, and exceedingly well flavoured.

The sea eel, described by Dr. DeKay, is stated to be fifty inches in length, and weighing nine pounds. It is probably found along the whole North American coast, north of New York.

Genus 2.—*Ammodytes*.

Species 1.—*Ammodytes Americanus*—The American Sand-launce.

The usual length of this fish is from 6 to 12 inches. The head and body above, bluish brown, intermixed with silvery and light green; beneath this, the sides and abdomen are silvery—the whole fish has a beautifully brilliant appearance. It is a northern fish, but its geographical range extends as far south as New York.

It is found everywhere on the coasts of New Brunswick and Nova Scotia, chiefly on beaches, under stones. At Newfoundland, and on the coast of Labrador, the sand-launce is used largely as bait for cod. On several parts of the coast of Great Britain and Ireland, this fish is readily eaten by the poorer classes; but as more palatable species are easily obtained in America, they are allowed to collect on the shores in large quantities, to be devoured by their numerous enemies. The cuttle-fish (*sepia arctica*) is said to prey upon them voraciously.

GROUP II.—CARTILAGINOUS FISHES.

ORDER 1.—Fishes with free gills.

Family 1.—STURIONIDÆ—The Sturgeon Family.

Genus 1.—*Accipenser*.

Species 1.—*Accipenser oxyrinchus*—Sharp-nosed Sturgeon.

This fish is taken in New Brunswick and Nova Scotia from 2 to 8 feet in length. The body is pentagonal; the skin rough; the head flattened above, and slightly depressed between the eyes. The whole upper portion of the head, bony; the head elongated, spatuliform, and covered with strong, bony shields, roughened above and beneath. The upper part of the body is of a grayish brown colour; inferior portion of the sides, silvery; beneath, white.

This fish ascends the River Saint John in considerable numbers in May, and is then often taken in the Harbour of Saint John, of the length of six feet or more, in weirs, seines, and

gasperen nets, to which last it is very destructive. In the summer, it basks on the Oromocto shoals, about 70 miles from the sea; during very hot days, some one of these monsters may be seen, every few minutes, flinging its whole length into the air, apparently in mere wantonness, but probably to disengage itself from the lamprey eel, which fastens upon its belly and eats into the flesh. Instances have occurred of the sturgeon having leaped into a canoe, in its efforts to disengage itself from several lampreys, that had fastened upon it, at the same time.

This fish also basks on an extensive sandy shoal to the southward of Grand Point, in the Grand Lake, about 60 miles from the sea. The Micicete Indians who formerly encamped in that vicinity, were accustomed to take sturgeon, on this shoal, after their own fashion. They used a harpoon of iron, with two barbs, both on the same side, the one about two inches above the other; this was attached to a wooden handle, or pole, of 10 or 12 feet in length. One Indian paddled the canoe, in that still and noiseless manner so peculiar to the aborigines of North America, while another Indian stood in the bow, balancing the harpoon, and with it making signs to his fellow, as to the management and direction of the canoe. If a sturgeon was struck which the Indian could not lift, the wooden handle was slipped from the harpoon, to which, however, it still remained attached, by a long thong of leather or moose skin; the sturgeon would then make off with the handle in tow, closely followed by the canoe; before the fish was killed, some very animated struggles often took place, and not unfrequently the canoe would be upset. Other canoes would come to the rescue; more Indians would be tumbled in the water, not of very great depth; and the scuffle and splashing made by them and the fish, with the wild shouts and whoops of the Indians, rendered the whole an interesting and somewhat exciting scene.

The flesh of the sturgeon is like coarse beef, quite firm and compact, but very rank and unsavoury. The Indians cut it up in large pieces, and salt it for winter use; it is only eaten by those who can obtain no better fare. The flesh of a young fish is much more delicate than that of an old one; when stewed with rich gravy, its flavour is not unlike that of veal.

In the north of Europe, extensive fisheries are established for taking sturgeon. The celebrated *caviare* is made of the roe of the female; and isinglass is obtained from the dense membrane forming the air-bladder.

The sturgeon spawns in fresh water, before leaving it in the autumn, to return to the sea. It is said to spend the winter in very deep water, quite beyond the reach of nets, and as it has not been known to take a hook, is quite safe from the fishermen. The fry of sturgeon have never been noticed in the Saint John, and it is supposed that so soon as they escape from the eggs, they descend immediately to the sea, and do not return until they come again in their turn to deposit spawn.

ORDER 2.—Fishes with fixed gills.

Family 1.—SQUALIDÆ—The Shark Family.

Genus 1.—*Carcharias*.Species 1.—*Carcharias vulpes*—The Thresher Shark.

This shark is said to be common on both sides the Atlantic; it is known from New York northwardly, by the various popular names of the "thresher," "fox shark," and "swingle tail." It pursues schulls of mackerel, mossbonkers, and shad, which it devours in great numbers. In pursuit of shad it is frequently taken of large size, both in Cumberland Bay and the Basin of Mines, at the head of the Bay of Fundy. It sometimes attains the length of 12 feet; is of a slate blue colour above; beneath, soiled white, marked with faint bluish spots. The first dorsal fin is triangular, a foot high, and nearly as long at its base; the second dorsal similar in shape, but much smaller. Its principal organ of defence, appears to be its long, broad, and flexible tail, with which it attacks, and literally *threshes* its enemies.

This fish is a great enemy to the small whales, in the Gulf of Saint Lawrence. In the Bay of Chaleur, and lower part of the River Saint Lawrence, it is often seen attacking the whales which frequent those localities. In its attacks, it is most persevering; and the whale may be often seen to spring quite out of the water, and make the sea foam, from the torment he endures.

Genus 2.—*Selachus*.Species 1.—*Selachus maximus*—The Basking Shark.

This huge fish usually exceeds thirty feet in length. Its body is cylindrical, fusiform, of a dark slate colour, the surface with numerous wrinkles, covered with minute sharp prickles, distributed in small groups, producing a roughness in the direction of the head. The teeth in the upper jaws, of various forms, recurved, edged, but not serrated; in the lower jaw, seven rows, rather larger than those above. According to Dr. Storer, there are fourteen hundred teeth in the lower jaw alone.

The basking shark inhabits the northern seas, but occasionally visits the American coast during summer, as far south as Cape Cod. His large size, and habit of swimming near the surface, with his upper jaw projecting out of the water, as he moves with open mouth, in pursuit of his prey, has, in the opinion of Dr. DeKay, suggested to ignorant credulity the idea of some huge aquatic monster, which has received the name of *sea serpent*!

In August 1851, a fish of this species was taken off Musquash Harbour, in the Bay of Fundy, forty feet in length. While in pursuit of herrings, it became entangled in a string

of herring nets, and while so entangled, was killed after a long and severe struggle. The tail was 7 feet 9 inches in breadth, with a carina on each side; the head 5 feet across; the mouth 3 feet wide, between the angles of the jaws when opened. The liver of this fish yielded 320 gallons of oil.

The basking shark has obtained its popular name from its habit of remaining occasionally at the surface of the water, quite motionless, as if enjoying the influence of the sun's rays, whence on the coasts of Great Britain and Ireland, it has obtained the name of sun-fish. If deeply struck with a harpoon, it plunges suddenly down, and swims away with such rapidity and violence, as to become a very difficult capture. It is said to exhibit but little of the ferocious character of the sharks in general, and is so indifferent to the approach of a boat, as to suffer one even to touch its body, when listlessly sunning itself at the surface.

This fish is considered by naturalists, the largest of the true fishes.

Genus 3.—*Spinax*.

Species 1.—*Spinax acanthias*—The Spinous Dog-fish.

This fish is found everywhere on the coast of North America, from the Delaware to Davis' Straits. It varies in length from one to five feet; it is of a slate colour above, dull white beneath. The skin is used for various purposes, but chiefly by cabinet-makers and others for bringing up and smoothing the surfaces of hardwood. The livers furnish a valuable oil; the fish themselves are often dried as food for cattle. In Nova Scotia and Cape Breton, it is dried in great quantities; and in the winter is fed to pigs, which are said to thrive well upon it.

The dog-fish, according to Dr. Storer, is so numerous about Cape Cod, that in spring and autumn, it furnishes an important fishery solely for its oil. It assembles in large schools, and feeds upon the offal and garbage thrown down by the fishermen; it cleans the ground so perfectly, that it is called the true "scavenger of the sea."

The dog-fish brings forth its young alive. In August 1849, at Point Miscou, in the Gulf of Saint Lawrence, the writer opened a female fish in a gravid state, and found the young perfectly formed; they were placed in the water with the sac attached, and appeared quite lively.

Mr. Couch, an English naturalist, asserts of this species, that it bends itself into a bow for the purpose of using its spines, and by a sudden motion causes them to spring asunder in opposite directions. So accurately is this intention effected, that if a finger be placed on its head, the dog-fish will strike it, without piercing its own skin.

Family 2.—RAIDÆ—The Ray Family.

Genus 1.—*Raia*.Species 1.—*Raia lævis*—The Skate.

This fish is known on the North American coast, as the smooth backed skate, and is found from 2 to 4 feet in length. It is of square form; the body smooth, elevated in the centre; of a uniform light brown colour above; the tail long and slender, longer than the body, with three rows of spines.

The peculiar form of the skate adapts it admirably to exist near the bottom, and it may with more propriety be called a flat-fish, than any of the flounder family. Its mode of progression is not very easily described; when the fish is not alarmed, it is performed with a slight undulating motion of its pectoral fins, something between flying and swimming. When a skate is making its way to seize food, or to escape from an enemy, great muscular exertion is evident.

The young are produced in the latter part of spring, or during summer. They are deposited by the parent fish in thin horny cases, in form nearly square; these are often found along the coast, and being empty, are jocularly termed "sailors' purses."

As food, the skate is held in very different degrees of estimation in different places. In London, large quantities are consumed, and the flesh is considered delicate and well flavoured; but on some parts of the English coast, although caught in considerable numbers, the flesh is seldom eaten, and is used for baiting lobster-pots. The French are great consumers of skate; and its flesh is used extensively both at New York and Boston; by many it is deemed a great delicacy. After the fish is skinned, the fleshy part of the huge pectoral fins, which is beautifully white, is cut into long, thin slips, about an inch wide; these are rolled like ribbon, and dressed in that form.

The skate is found everywhere on the coasts of New Brunswick and Nova Scotia, and is frequently taken of large size with hook and line, by cod fishers. The writer, while haddock fishing, in June 1848, in the Basin of Annapolis, saw two fine skate caught at once, each 30 inches over, which were in prime condition. In August 1850, while pollack fishing in 26 fathoms water off the eastern end of Campo Bello, near Head Harbour Light House, a skate was taken 3 feet over, weighing full 60lbs. It was not in good condition, having probably spawned; from the difficulty in bringing it to the surface, for the skate is exceedingly violent when hooked, it was supposed to be a halibut.

Dr. Storer states, that skate are sometimes met with near Boston, weighing 200lbs., and in his Report, he describes a male specimen sent to him from New Bedford, 54 inches long, and 36 inches wide.

With its powerful spade-like snout, the skate roots up clams, and crushes them between its flattened teeth, which appear to act upon each other like the cylinders of a rolling mill. It also feeds on other fish, for five different species, besides crustacea, have been taken from the stomach of a skate.

Species 2.—*Raia erinaceus*—The Hedgehog Ray.

While the writer was at anchor in Whale Cove, near the Northern Head of Grand Manan, in August 1850, a ray was caught, 18 inches long and 9 inches wide, which so closely resembled the hedgehog ray described by Doctor Mitchell, that it is believed to be the same fish. The form was more rounded than that of the skate; the surface of a pale brown colour, with several groups of prickles arrayed in regular lines. A double series ran along the vertebral line, and extended the whole length of the tail; on the sides of the tail, the prickles were very stiff and stout. It was caught near the shore, in less than two fathoms water, with a large sized trout hook, used for taking small pollack. When brought on deck, it rolled itself almost into a ball, displayed its prickles, and bore very great resemblance to a young hedgehog; if struck with a stick, it lashed about its tail in all directions, and seemed bent on defending itself to the uttermost. One of the men being to the vessel, after teasing it some time, threw it overboard, when it swam away, although it had been a long time out of water.

A careful examination of this genus will probably show that several other species exist on the coasts of New Brunswick and Nova Scotia, besides those now mentioned.

ORDER 3.—Fishes with round mouths, formed into a sucker.

Family 1.—PETROMYZONIDÆ—The Lamprey Family.

Genus 1.—*Petromyzon*.

Species 1.—*Petromyzon Americanus*—The American Lamprey.

The lamprey is very common in the fresh waters of the Lower Provinces. It ascends the Saint John in May, and passing into the smaller streams, generally selecting those which have stony or gravelly bottoms, it there deposits its spawn, among conical heaps of stones. They have been often seen in the summer, in pairs, at work together, constructing these mounds, which are about three feet in diameter at the base, and two feet high, composed of stones from the size of an ounce bullet to that of the fist; they often aid each other in carrying the same stone.

It is not known at what time the lamprey returns to the sea, as it always moves in the night; but there is an impression

that it dies in the fresh water after spawning. This impression may have arisen from the fact, that dead lampreys are often seen in the streams toward autumn. In August 1840, the writer, while trout fishing in the Nerepis, saw dead lampreys along that river for miles.

Mr. J. L. Price states to the writer, that the lamprey ascends the Miramichi, and all its principal tributaries, where numbers are frequently found dead toward autumn. He has often observed it, in August, evidently in a languishing condition, the head and throat greatly bloated, and the whole body covered with a white mucous secretion. Mr. Price has remarked one peculiarity of this fish, which distinguishes it from all other minor fish—when disturbed at the spawning season, it will pursue the intruder, however formidable, with great spirit, even beyond the bounds of the water.

The lamprey is usually of a bluish brown colour, mottled with dark olive green along the back; beneath, a uniform dull yellowish olive. The fore part of the body is round; the posterior part flattened. There are seven large branchial apertures back of each eye, passing backward in nearly a straight line, the first smallest. When the lamprey is unattached, the mouth is a longitudinal fissure; but when attached, it is circular, the lip forming a ring, furnished with hard horny teeth of a yellow colour, within.

This fish is believed to do much damage to mill dams built upon gravelly or sandy foundations, by working its way beneath the dam, through the sand and gravel, and occasioning leaks, which gradually undermine the dam and eventually lead to its destruction.

LeSueur, a French naturalist, in describing a lamprey from the Connecticut river, says the annular or ribbed appearance of this fish, is owing to the muscles, which are endowed with great strength, in order to enable it to burrow in the muddy sands of rivers, which it penetrates in a serpentine manner by means of its snout, the large lip performing the functions of a terrier.

The lamprey has been known to attain the length of 30 inches, with a girth of 6 inches. The writer has never known it to be eaten in New Brunswick, but in the United States and elsewhere, it is held in high estimation by epicures.

LIST OF THE POPULAR NAMES OF FISHES IN THIS CATALOGUE.

I. *The Perch Family.*

1. The American yellow Perch.
2. The Striped Bass.
3. The White Perch.
4. The common Pond Fish.

II. *The hard cheeked Family, (Sculpin.)*

1. The common Bullhead.
2. The Greenland Bullhead.
3. The two-spined Stickleback.
4. The Norway Haddock.

III. *The Mackerel Family.*

1. The Spring Mackerel.
2. The Fall Mackerel.
3. The Tunny, or Albicore.
4. The Sword Fish.

IV. *The Goby Family.*

1. The Wolf Fish.

V. *Fishes with wrists in their pectoral fins.*

1. The American Angler.

VI. *The Wrasse or Rock Fish Family.*

1. The Sea Perch, or Cunner.
2. The Tautog, or Black-fish.

VII. *The Carp Family.*

1. The common Sucker.
2. The yellow Shiner.
3. The Roach, or Red-fin.
4. The Roach Dace.
5. The shining Dace, or Shiner.
6. The Chub.
7. The Brook Minnow.
8. The striped Killifish.

VIII. *The Sheat-fish Family.*

1. The common Cat-fish.

IX. *The Salmon Family.*

1. The Brook Trout.
2. The Great Grey Trout.
3. The Salmon Trout, (White Sea Trout.)
4. The Salmon.
5. The Smelt.
6. The Capelin.
7. The White Fish, (Gizzard Fish.)

X. *The Herring Family.*

1. The common American Herring.
2. The Britt.
3. The Shad.
4. The Alewife, or Gaspereau.
5. The Mossbonker.
6. The Shad Herring.

XI. *The Cod Family.*

1. The Bank Cod.
2. The American Cod.
3. The Tomcod.
4. The Haddock.
5. The Hake.
6. The Silver Hake.
7. The Poliack.
8. The Torsk, or Cusk.
9. The Fresh Water Cusk.

XII. *The Flat-fish Family.*

1. The Halibut.
2. The common Flounder.
3. The Sand Flounder.
4. The Fleuk.

XIII. *The Lump-fish Family.*

1. The Lump-fish.

XIV. *The Eel Family.*

1. The common Eel.
2. The Sea Eel.
3. The American Sand-launce.

XV. *The Sturgeon Family.*

1. The sharp nosed Sturgeon.

XVI. *The Shark Family.*

1. The Thresher Shark.
2. The Basking Shark.
3. The Dog-fish.

XVII. *The Ray Family.*

1. The Skate.
2. The Hedge-Hog Ray.

XVIII. *The Lamprey Family.*

1. The Lamprey.

In all, eighteen families, comprising forty genera, and sixty two species of fish.

LIST OF WORKS CONSULTED.

In preparing the foregoing Catalogue, the classification of Baron Cuvier has been followed, as that generally adopted in the present day by the most eminent naturalists and men of science, and best understood.

The following is a list of the various works consulted, to each of which the writer is under greater or less obligation:—
Regne Animal, par M. le Baron Cuvier; translated with supplementary additions to the class Fishes, by Edward Griffith, F.R.A., and Lt. Col. C. Hamilton Smith.

Histoire Naturelle des Poissons, par Cuvier, et Valenciennes, Tom. 21.

History of British Fishes, and Supplement, by Wm. Yarrell.
Fauna Boreali Americana, or Zoology of the northern parts of America, by Dr. Richardson.

Report on the Fishes of New York, by Dr. J. E. DeKay.

Report on the Fishes of Massachusetts, by Dr. D. H. Storer.

Synopsis of the Fishes of North America, by Dr. D. H. Storer.

Observations on the Fishes of Nova Scotia and Labrador, by Horatio Robinson Storer—in the Boston Journal of Natural History for October 1850.

Fish and Fishing in the United States, and British Provinces of North America, by Henry W. Herbert, (Frank Forrester.)

The Deep Sea and Coast Fisheries of Ireland, by W. Brabazon.

Parliamentary Reports of the Board of British Fisheries, from 1843 to 1850, inclusive.

The writer earnestly requests, that this attempt to classify and describe the Fishes of New Brunswick and Nova Scotia, may be viewed with every indulgence, as the work of one who does not profess to be a naturalist, but simply an occasional observer of nature.

M. H. PERLEY.

Government Emigration Office,
 St. John, N. B., January, 1852.

APPENDIX.

(No. 1.)

Copy of Letter from M. H. Perley, Esq., Her Majesty's Emigration Officer, to the Provincial Secretary, with first Report on the Fisheries of the Gulf of Saint Lawrence, in March 1849.

GOVERNMENT EMIGRATION OFFICE,

St. John, N. B. March 5, 1849.

SIR,—The Instructions of the Provincial Secretary, dated 26th October, 1846, with reference to certain inquiries to be prosecuted by me, in connection with the Survey, by Her Majesty's Government, of a line for a Trunk Railway from Halifax to Quebec, directed me to ascertain what encouragement the proposed Trunk Line, or its Branches, would give to the Fisheries, and the facilities for prosecuting them in the Gulf of Saint Lawrence, and on the coast of Labrador; and I was also directed to furnish some account of the description and value of the Sea and River Fisheries, in the several Counties which might be traversed by the Trunk Line of Railway, or any of its principal Branches.

The Commissioners for the Survey of the proposed Trunk Line having presented their Report, and pointed out a very favourable route for the construction of this great National Railway, along the Eastern Shores of New Brunswick, bordering on the Gulf of Saint Lawrence; and the route for a very important Branch of such Trunk Line, from Shediac to Saint John, having been surveyed during the past season, I am now enabled to submit the annexed Report on the Fisheries of the Gulf of Saint Lawrence.

This Report is presented with great deference, and with the hope that it will be viewed, not as furnishing full and perfect information, but simply as stating certain facts which may serve as the basis for more extensive inquiry.

I have the honor to be, Sir,

Your very obedient servant,

M. H. PERLEY,

H. M. Emigration Officer.

The Hon. John R. Partelow, Provincial Secretary, &c. &c. &c.

(No. 2.)

Copy of Instructions from the Provincial Secretary, to M. H. Perley, Esquire, relative to the Fisheries of New Brunswick, within the Gulf of Saint Lawrence.

Secretary's Office, Fredericton, 3d August, 1849.

SIR,—The Lieutenant Governor in Council, having determined upon prosecuting certain inquiries, respecting the fisheries, on the Gulf shore of this Province; His Excellency has been pleased to appoint you to execute that service, and to direct the following instructions to be communicated to you, for your guidance therein, viz:—

1st. To ascertain the numbers of the fishermen now engaged in the Gulf fisheries, distinguishing those who are fishermen exclusively, from those who only fish occasionally—or who combine fishing with agricultural pursuits; and also to enumerate, as near as may be, the boats and vessels in these fisheries.

2nd. To ascertain distinctly, the present modes of conducting the several fisheries for herring, cod, and mackerel, with a description of the several sorts of nets, lines, and other tackle employed, in order to know what improvements may be advantageously introduced.

3rd. To inquire into existing modes of curing and packing the several descriptions of fish, with the view of ascertaining what defects exist in these important particulars.

4th. To ascertain the most eligible stations on the coast, for the successful prosecution of the various fisheries, in order to the establishment, at such stations, of duly qualified Inspectors of all descriptions of fish intended for exportation; and also of persons from abroad, competent to instruct the resident fishermen in the best and most improved modes of fishing, and of curing, and packing each description of fish, upon which the value of the article so greatly depends in every market.

5th. To inquire as to the proper season for each fishery, in order to prevent the catch of fish at times when they are of no real value; also, to ascertain the extent to which the fisheries, in the Bay of Chaleur, are injured, as is alleged, by the great destruction of capelin and herring for manure, in order, that if advisable, measures may be adopted, for preventing further injury to the herring and cod fisheries in that Bay, now said to be threatened with total annihilation.

6th. To acquire all incidental information as to the Gulf Fisheries, which may be interesting or important; and especially to ascertain the extent to which they are prosecuted by foreigners on the shores of New Brunswick, and whether they make any, and what, encroachments.

7th. The destruction of fish in rivers, and the injury to the salmon fishery by mill dams, by illegal modes of fishing, and by the destruction of salmon out of season, will form an important branch of inquiry.

I have the honor to be, Sir,

Your most obedient servant,

(Signed)

J. R. PARTELOW.

M. H. Perley, Esquire, Saint John.

(No. 3.)

Copy of Letter from M. H. Perley, Esq., to the Provincial Secretary, with second Report, on the Sea and River Fisheries of the Gulf of Saint Lawrence, in January 1850.

Government Emigration Office,

St. John, N. B. January 22, 1850.

SIR,—In obedience to the instructions contained in your letter of 3rd August last, I proceeded, immediately on its receipt, to execute the duties therein designated.

A Circular letter, asking information as to the Fisheries of the Gulf Shore, was prepared and printed for distribution, a copy of which is annexed.

I left this City on the 12th of August last, accompanied by one of my sons, and proceeded directly to Miramichi, by Shediac and Richibucto.

At Chatham, I engaged two canoes, and three Indians, and proceeded to the northward, visiting every Island, River, Creek, Cove, Gully, Harbour, and Fishing Station, from Miramichi, along the Coast, to Shippagan; thence, around the Islands of Shippagan and Miscou, to Caraquet Bay, from whence I coasted the southern shore of the Bay of Chaleur, to Bathurst. Leaving the sea-going canoes at Bathurst, I hired a light river canoe, with a resident Indian as pilot, and ascended the Nepisiquit River to the Grand Falls, where I rested one night. On my return to Bathurst, I resumed the sea-going canoes, and proceeded up the Bay to Dalhousie, examining the Coast and Fishing Stations, and the Jacquet River, by the way.

From Dalhousie, I went by land to Athol House, at the head of ship navigation on the Restigouche; and on my return to Dalhousie, I proceeded, in the canoes, down the northern, or Gaspé, side of the Bay of Chaleur, sixty miles, to Paspébiac. From that place, I crossed the Bay of Chaleur, in Messrs. Le Boutillier's yacht, with the canoes on board, to Little Shippagan, from whence I made the best of my way to Newcastle, on the Miramichi, where I arrived on the 29th September.

The season being far advanced, and strong easterly gales having set in, the Coast south of the Miramichi could not be visited by water, and I therefore proceeded along that Coast by land to Shediac; from thence I returned to Saint John, where I arrived on the 8th of October.

The distance performed in the canoes was nearly five hundred miles; the whole journey was about nine hundred miles.

I have now the honor to present the accompanying Report, as the result of the information obtained on this tour of duty, with such other information, in relation to the subject, as is interesting or important.

I crave leave to refer to my Report on the Fisheries of the Gulf of Saint Lawrence, presented to the House of Assembly on the 8th March last, which I beg may be taken as part of the present Report, in order to its being more clearly understood.

It only remains for me to add, that myself and my son were everywhere received with the greatest kindness and attention, and every facility afforded us for obtaining information; and I should be exceedingly ungrateful, if I did not publicly acknowledge the exceeding hospitality extended to us, at every place throughout our entire journey.

I have the honor to be, Sir,

Your very obedient servant,

M. H. PERLEY.

The Honorable John R. Partelow, Provincial Secretary.

(No. 4.)

Copy of Circular asking information as to the Gulf Fisheries, annexed to the foregoing Letter.

*Government Emigration Office,
Saint John, N. B., 10th August, 1849.*

Mr. M. H. Perley having been appointed by His Excellency the Lieutenant Governor, in Council, to prosecute certain inquiries respecting the Fisheries on the Gulf Shore of this Province, is desirous of obtaining information on the following points, to which among others, his attention has been specially directed:—

1. As to the present modes of conducting the fisheries for herring, cod, and mackerel—with a description of the nets, lines, and other tackle now employed, in order to know if any, and what, improvements may be introduced.
2. As to the modes now in use, of curing and packing the several descriptions of fish, with the view of ascertaining if any, and what, defects exist in these important particulars.
3. As to the proper season for each fishery; and whether fish are now caught at times when they are of no real value.
4. As to the extent to which the fisheries in the Bay of Chaleur are injured, as is alleged, by the taking of herring and capelin for manure.
5. As to the extent to which the fisheries, of the Gulf Shore of the Province, are prosecuted by foreigners, and whether they make any, and what, encroachments.
6. As to the destruction of fish in rivers, by illegal modes of fishing—as to various sorts of fish, (especially salmon) being prevented ascending to the usual spawning grounds, by mill dams, or other obstructions—and as to their being caught out of season, and when spawning—with the best information that can be procured, as to the decrease of the fisheries, in each of the rivers flowing into the Gulf, or Bay of Chaleur, from these, or other causes.

Mr. Perley respectfully requests all persons who feel an interest in the fisheries of the Gulf, to furnish him with whatever information they possess, with reference to the foregoing inquiries, or which may be interesting, or important, as regards the fisheries generally. Any observation as to existing nuisances, or obstructions, to the sea or river fisheries, and the means of remedying or removing them, will be gladly received.

As it is extremely desirable that the most full and accurate information should be obtained, in order that measures of real utility may be adopted to advance the fisheries, it is hoped that all residents on the Gulf shore, and within the Bay of Chaleur, will cheerfully aid in a work calculated to advance the general prosperity.

It is Mr. Perley's intention to visit personally every part of the coast mentioned, and collect information on the spot; but all communications to him on the subject, until 20th September, may be addressed to the care of Edward Williston, Esquire, Newcastle, Miramichi; and after that date, to the Government Emigration Office, Saint John.

(No. 5.)

The Petition of the Settlers at Miscou.

To Sir Edmund Head, Baronet, Lieutenant Governor and Commander in Chief of the Province of New Brunswick, &c. &c. &c.

The Petition of George Sevret, and others, on behalf of the Settlers at Miscou, Humbly Sheweth—

That your Petitioners are British subjects resident on Miscou; that they have all large families, and support themselves by fishing and farming; that they have made small houses, in which they reside, and they pray, that they may have grants or licences of occupation for the land they occupy, and privilege of the beaches in front of their lots. These few years back, the vacant marshes and beaches were sold at auction for a few shillings, and the buyer charged a poor fisherman 10s. per ton for marsh hay, and 5s. per ton for beach grass, standing; the beach grass is hardly worth mowing on account of the sand in or about it.

And as in duty bound will ever pray.

George Sevret,

his

Peter X Sevret,

mark

his

William X Ward,

mark

his

Richard X Plaw,

mark

Joseph Ward,

his

John X Burns,

mark

his

James X Ward,

mark

his

Michael X Ward,

mark

his

Peter X Dupuit,

mark

John Vibert,

Pierre Bezeau,

George Brown,

Francis Bezeau,

Chrysostom Cheseau,

James Ward, Jr.

By Geo. Sevret.

(No. 6.)

Copy of Letter from John Doran, Esquire, J. P., of Shippagan, respecting the Sea Fisheries.

Shippagan, 22d August, 1849.

SIR,—I have had great satisfaction in perusing your Circular Letter, asking information as to the fisheries in this District, and within the Bay of Chaleur; and I beg to communicate to you the following observations:—

In reply to your first inquiry, I can state, that herring, mackerel, and cod, are generally abundant, both on the gulf shore and within the Bay. For some years past, the herring fishery, in the spring, has not been so good as formerly, which was attributed to the want of some regulations when the herring came in; the fish are not allowed their proper time for spawning. When fish, of any kind, are disturbed while spawning, they generally leave the ground, and seek some

other spot where they can find rest. The present year, the herring came in great abundance, and remained on the different spawning grounds nearly three weeks, which was unprecedented; had there been a market for them, they could have been turned to good account.

The cod fishing could be made a source of wealth, as in my opinion, it is inexhaustible; there is no danger of taking too many fish. Formerly, the cod were principally taken in the early part of the summer, when the capelin struck in; but of late years, the capelin have not appeared on these shores, which is attributed to their being seized, and used for manure. If capitalists would turn their attention to the cod fishing on this coast, they would find it a safe and profitable investment. This year, the catch has been abundant, owing to the large quantities of mackerel in the Gulf, so that the fishermen had an abundance of bait.

The house of Charles Robin & Co. have brought the cod fishing to the height of perfection; by their care, industry, and judicious management, the partners have made princely fortunes. The principals of all the fishing establishments in the Bay of Chaleur, have been trained at their school; they have all done well, and are making money. Some of our youths, of respectability and education, should be sent to these establishments, to be trained, so as to be fitted to take charge of similar establishments. At the Jersey establishments, the young men are trained both to the shore and to the sea; they remain on shore at the "rooms" during the summer, and in the winter, they go in the vessels, with the fish, to the Mediterranean, and become acquainted with the Spanish and Italian markets. When out of their time, they can take their choice, either to remain on shore, or go as master of one of the vessels. This sort of training is the first step towards establishing a fishing station.

In the next place, the station must be provided with a sufficient number of good boats, and a complete outfit of everything required for the fishery; nothing should be out of order, or wanting, or else there will be disappointment, and loss will ensue. A good take of fish is the next thing, as regards the profits; but the heading, splitting, salting, and curing, are all essential matters, to which great attention must be paid, as also to the state of the weather. When there are several hundred quintals on hand, a large number of persons must be employed, and this must be done with great regard to economy. Care must be taken that the work goes on in a regular and uniform manner, at the smallest outlay for wages; and that the fish are not wasted, or so carelessly managed, or handled, as to become only second quality, instead of merchantable. The profits consist in making the fish all of the first quality, which are worth 16s. per quintal, when the second quality are only worth from 8s. to 10s. per quintal. At this time, the second quality of cod can scarcely find a market anywhere, while the first quality are worth 15s. sterling per quintal in the Spanish markets. I believe no improvement could be made on Messrs. Robin's mode of conducting the cod fishery.

Our fishing boats are all whale built, from 23 to 26 feet keel; they have two masts, and now, generally carry a jib. At each fishing establishment it is necessary to have a sufficient supply of large and small cordage, blocks, anchors, grapnels, hooks, nets, lines of all lengths, kinds and sizes, always on hand; and also provisions, such as best mess pork, flour, bread, corn meal, oatmeal, peas, rice, sugar, and molasses,—together with manufactured goods of all kinds, ready made clothing; and last, not least, a stock of salt sufficiently large for any emergency.

If a partnership, or company, should be formed for prosecuting the cod fishery, they ought to own several first class vessels, from 100 to 120 tons burthen. It must be understood, that in this fishery, a small business will not answer. The sea around us is a mine of wealth, but from want of enterprise and capital, we are just wasting our lifetime in useless drudgery. If the cod fishery could be established here, upon a large scale, it would open out all the agricultural resources of this part of the Province, for the farmers and fishermen agree well, and assist each other. When a farmer on the coast can fit out a boat himself, and find a ready market for his fish, he can carry on the fishing between seed time and harvest, and soon become independent. He can compost to any extent, as you will have observed, by decomposing the cods' heads and other offal with lime, or plaster of Paris; and this manure is as good as the best guano, and will produce equally good crops.

Of the mackerel fishery we know nothing at all. All the mackerel taken are used for bait, and such is the carelessness of our fishermen, that they scarcely salt a barrel to each boat, for their own use. All the information I have, is from hearsay; but as far as I can learn, the Americans must find it a profitable business. We want our youths instructed in the mode of catching and curing, and then this business might be brought into right operation. There is one thing certain—if it pays the Americans, it ought to pay us, who have the fish at our own doors.

As soon as the fleet of American fishing vessels arrive, they begin to draw the shoals of mackerel around them, and then, our own fishermen cannot get any for bait. This year, four American vessels have fished off Grand Ance; as soon as they had baited the fish, and commenced jigging them, our fishermen could not get a mackerel, but were obliged to wait for bait, until the Americans had filled their vessels.

As to your fourth inquiry, I think that a law should be enacted to prevent all persons from using any kind of fish for manure.

I must not omit to mention the cod oil, which pays well; on an average, it adds about eighteen pence per quintal to the value of the fish, which will overpay the salt.

Your obedient servant,

JOHN DORAN.

M. H. Perley, Esquire.

(No. 7.)

Rules and Orders respecting the Salmon Fishery, in the County of Gloucester, GLOUCESTER, ss.—July Sessions, 1848.

At a General Sessions of the Peace, held at the Court House in Bathurst, in the said County, on the first Tuesday in July, in the twelfth year of the Reign of Queen Victoria, and in the year of our Lord one thousand eight hundred and forty eight,—

It was Ordered, That from and after the end of the present Sessions, all rules and orders heretofore, at any time, made by the Court of General Sessions of the Peace of this County, for the regulation of the salmon fisheries within the same, be cancelled and rescinded; and that, thenceforth, the following rules and orders be deemed and taken to be the rules and orders regulating the salmon fisheries in the said County; saving nevertheless, all penalties already incurred:

Ordered, That the salmon fishery, with nets, shall terminate on the first day of August in each year; and that no nets shall, on any pretence, be allowed to remain set after that time, under the penalty of five pounds each day.

Second.—Ordered, That no net shall be set or used for the catch of salmon within the harbour of Bathurst, on any middle ground, or flat, or in any channel between Mr. Read's Mills and the Points, or between Mr. Cunard's wharf and the Points, or in part of the Tatagouche or Middle Rivers; nor shall any net be set or used in any part of the Big Nepisquit River, above John Swanton Bateman's brook, under a penalty not to exceed five pounds per day.

Third.—Ordered, That all nets shall be set from the shores or banks of the said river, and that no net shall be set on, or from, any middle ground, under the like penalty.

Fourth.—Ordered, That nets set in the Big Nepisquit River, on either side, within three hundred yards, up stream, of the southern extremity of the middle ground, shall extend no further into the river, than a distance equal to one third the breadth of the northern or southern channel, according to the side of said river on which the said net may be set; and that no net shall extend farther into the said river, than one third the breadth of the channel, into which the said net may be set, under the like penalty.

Fifth.—Ordered, That no salmon net shall be used of less than five and a half inches mesh, under the like penalty.

Sixth.—Ordered, That all salmon nets shall have the name of the owner legibly marked, branded, or scribed on three or four pieces of wood or metal attached to the same, and that such marks shall be preserved on the said net during the fishing season, under a penalty of two pounds per day.

Eighth.—Ordered, That before any net shall be set, the owner or owners, person or persons interested in the same, shall cause a memorandum, setting forth the name of the party interested, and the length of such net, with the particular location, where the same is intended to be used, to be filed in the office of the Clerk of the Peace; and that the said Clerk shall thereupon forthwith notify the Overseers of the Fisheries, or some of them, of the fact of such net having been registered, for the guidance of such overseer; and that any net set before such registry, shall be deemed and taken to be illegally set, and shall subject the owner to a penalty of two pounds per day, for every day such net shall have been so set.

Ninth.—Ordered, That all net pickets shall be removed from the river by the sixth day of August in each year, under a penalty, against the proprietor of the net, for the use of which such pickets had been driven, of two pounds per day.

And whereas great injury to the fisheries hath been perpetrated by the practice of spearing salmon in, or in the neighbourhood of, their spawning places;

Tenth.—Ordered, That no salmon shall be speared in any part of the Middle River, or the Tatagouche River, or in the Big Nepisiquit River, above the tide way, or in any of its branches, under a penalty of one pound for each fish so speared; and if any person shall, directly or indirectly, buy, purchase, or barter for, or have in his or their possession, any salmon, so unlawfully speared, he or she shall be liable to a fine of one pound for each fish, one half to the informer and the other half to the poor of the Parish; and all such fish shall be liable to be seized, confiscated, and sold by the Overseers of the Fisheries, and the proceeds appropriated in the same manner, as nets unlawfully set may be seized and sold as hereinafter mentioned.

Eleventh.—Ordered, That if any net or nets shall be found set, or in the act of being used, contrary to these regulations, or any of them, it shall be the duty of the Overseers of the Fisheries, or any of them, forthwith to seize, take, and carry away the same, and deposit it in a place of safety, and if such net be not claimed by the owner or party interested, and the penalty incurred paid within five days after such seizure, the same shall be publicly advertised for sale, and sold after three days, by public auction, and the proceeds, after deducting the costs and charges of seizing, keeping, and sale, shall be appropriated, one half to the Overseers of the Poor of the Parish, for the use of the poor, and the other half to the Overseers of the Fisheries who may have seized and sold the said net.

Twelfth.—Ordered, That these Rules and Orders shall be in addition to all the provisions of the Acts of the General Assembly now in force, regulating Salmon Fisheries in the County of Gloucester, and all and every penalty herein and hereby imposed, shall and may be recovered before any Justice of the Peace of the said County, on the oath of one or more credible witness or witnesses; and in default of payment of the said penalty, with costs, such Justice of the Peace shall commit the offender to close confinement in the common gaol, for such space of time, not exceeding twenty days, as he may see fit, according to the authority of the Act of the General Assembly in such case made and provided.

Thirteenth.—Ordered, That the Clerk of the Peace shall cause these Rules and Orders to be forthwith published, and shall procure one hundred copies of the same, to be printed, together with such extracts from the Acts of the General Assembly, regulating Fisheries in the County of Gloucester, as may be necessary for the guidance of the Overseers of the Fisheries, and the information of the public.

By order of the Court.

WILLIAM END,

Clerk of the Peace and Sessions.

By the second Section of the Act 3 W. 4, cap. 27, it is enacted, That any person who shall set any net or other device across any River, Cove, or Creek, in the County of Gloucester, to injure the natural course of the Salmon in any place where they usually go, shall, on due conviction, on the oath of one or more witness or witnesses before two Justices, forfeit and pay the sum of ten pounds for the first offence, twenty pounds for the second offence, and fifty pounds for the third and every subsequent offence.

The third Section of the same Act, imposes a penalty of ten pounds for using a drift net, with forty days imprisonment.

The tenth Section of the same Act, requires the Overseers of the Fisheries, immediately on the commencement of the fishing season, as often as they or any of them shall deem necessary, or upon information given, to examine the Rivers, Coves and Creeks, and if the Law, or the Rules and Orders made in obedience to it, is found to be in any wise contravened, to take immediate measures for preventing the same and prosecuting the offender.

The eleventh Section, imposes a fine of ten pounds on the Overseer of the Fisheries, for every neglect of duty.

The thirteenth Section empowers the Justices to compensate the Overseers, for their services, out of the proceeds of penalties and forfeitures, or from the County Treasury.

(No. 8.)

COUNTY OF BONAVENTURE.

Municipality, Second Division.

At the second quarterly meeting of the Municipal Council, Second Division Municipality, County of Bonaventure, held on Monday, March 13, 1848, at New Richmond, within the said Municipality,

A majority of the Councillors being present, and after a number of Resolutions were gone through, the following rules and regulations were unanimously agreed upon and passed :—

1st. That each Circus Company, showman, or exhibitor of wild beasts, coming into this Municipality, shall pay to the Secretary Treasurer, for the use of the Municipality, the duty of five pounds, under the penalty mentioned in the Act 10 and 11 Vic. cap. 7, on contravention thereof.

2nd. That each and every wholesale and retail trader, within this Municipality, shall take out a licence for keeping his or her store or shop, for the sale of any goods (excepting spirituous liquors) and shall pay the same to the Secretary Treasurer, for the use of the Municipality, at the prices fixed by this Council.

3rd. That tavern keepers, and all other person or persons within this Municipality, selling and dealing in spirituous liquors, shall take out licence for the sale of the same, at the rates fixed by this Council; and that no trader, tavern keeper, or person or persons, shall sell or trade within this Municipality, without such licence, under the penalty mentioned in the Act above cited.

4th. That all licences will commence and be renewed on the first day of April, in each and every year, and that all persons are hereby required to take out the same, before the first day of April next.

5th. That each and every person or persons, so taking out licence, shall in addition to the prices fixed for the same, pay a fee of five shillings for the sale of licence to the Secretary Treasurer, who upon receiving the amount of licence money and fee, shall deliver to the party paying the same, his or her licence, signed by the Mayor, and countersigned by the said Secretary Treasurer.

6th. That each and every ferryman within this Municipality, shall take out his licence before the first day of April next, and in addition to the prices fixed for such licence, shall pay to the Secretary Treasurer, the sum of five shillings, and shall give good and sufficient security, that the rules and regulations, made by this Council, will be faithfully complied with. No person shall act as ferryman within this Municipality without licence, under the penalty of the law.

7th. That so much of a bye-law, passed by the late Municipal Council of the Township of Maria, on the 19th July, 1845, for the preservation of the salmon fisheries, on the Cascapedia River, and along the shore of the said Township of Maria, and other local fisheries, shall be applicable to, and extend to the Township of New Richmond, Carleton, and Nouvelle, and also to the River Restigouche, within this Municipality, with the following amendment, viz :—That no person shall set any salmon net on the Restigouche River, below the islands, above the length of one hundred and fifty fathoms, bar net; that from the foot of the

islands upwards, on each particular branch of the River Restigouche, within this Municipality—one third of the deepest water to be left open. No drifting for salmon allowed.

8th. That the Secretary Treasurer do furnish the respective Overseers of fisheries with a copy of the said bye-laws and amendment.

9th. That the Secretary Treasurer do cause the foregoing rules and regulations to be published in the *Gaspé Gazette*.

JOSEPH MEAGHER, Mayor.

WM. HARVEY, Secy. Treasurer.

March 31, 1848.

(No. 9.)

Statement of the tonnage and men employed in the Bank or Cod Fishery of the United States, the product of the same, and the amount of allowances paid to the owners of vessels engaged in the fisheries, during the year ending 30th June, 1848:—

	Number.	Tonnage.	Men.	Boys.
Vessels,	1,597	86,069	8,495	484
Codfish,				
Fish Oil,				
Tongues and Sounds,				
Halibut, Hake, and Pollack, ..				
Total,				

Amount of allowances paid, \$243,432.

Treasury Department, Washington,
30th October, 1849.

ALLEN A. HALL.

(No. 10.)

Statement of the quantity of Pickled Fish exported from the United States, the bounty paid on exportation, and the amount of allowances paid to the owners of vessels, employed in the Bank or Cod Fishery, from 1843 to 1848, inclusive:—

YEARS.	PICKLED FISH EXPORTED.			Allowances to Fishing Vessels.	Total bounty and allowances.
	Barrels.	Rate per barrel.	Bounty.		
1843	17,575	20 cents,	\$3,515	\$169,932	\$173,247
1844	33,318	"	6,663	249,074	255,737
1845	20,871	"	4,174	289,840	294,014
1846	27,703	"	5,541	274,942	280,483
1847	32,441	"	6,488	276,429	282,917
1848	29,915	2½ cents.	748	243,432	244,180

Treasury Department, Washington,
October 30, 1849.

ALLEN A. HALL.

(No. 11.)

Exhibit of the quantity and value of foreign caught fish, imported into the United States, during the years 1829, 1832, 1838, 1843, and 1848, and the amount of Duty which accrued on the same, at the rates levied at each period :

No.	YEARS.	DRIED FISH.		SALMON.		MACKEREL.		ALL OTHER FISH.		Total Duties.	Total value.
		Cwt.	Duties.	Brls.	Duties.	Brls.	Duties.	Brls.	Duties.		
1	1829	462	\$462	999	\$1,998	95	\$143	122	\$122	\$2,725	\$15,896
2	1832	1,359	1,359	2,104	4,208	32	48	264	264	5,879	28,584
3	1838	2,015	2,015	3,790	7,580	182	273	3,521	3,521	13,389	93,272
4	1843	188	188	2,640	5,280	12,733	19,100	1,391	1,391	25,959	91,613
5	1848	51,826	25,560	7,630	16,189	122,594	107,026	23,344	14,335	163,130	815,645

No. 1, Under the Tariff of 1816, Dried Fish paid \$1.00 per cwt.
 " 2, " " " Salmon, " 2.00 per barrel.
 " 3, " " " 1832, Mackerel, " 1.50 "
 " 4, " " " 1842, all other, " 1.00 "
 " 5, " " " 1846, all Fish, " 20 per cent. *ad-valorem*.

Treasury Department, Washington, 30th October, 1849.

ALLEN A. HALL.

(No. 12.)

Extract from the Convention between His Britannic Majesty and the United States of America, signed at London, 20th October, 1818.

Art. 1. Whereas differences have arisen respecting the liberty claimed by the United States for the inhabitants thereof, to take, dry, and cure fish, on certain coasts, bays, harbours and creeks, of His Britannic Majesty's Dominions in America, it is agreed between the high contracting parties, that the inhabitants of the said United States shall have, for ever, in common with the subjects of His Britannic Majesty, the liberty to take fish of every kind, on that part of the southern coast of Newfoundland, which extends from Cape Ray to the Rameau Islands; on the western and northern coast of Newfoundland, from the said Cape Ray to the Quirpon Islands; on the shores of the Magdalen Islands; from Mount Jely, on the southern coast of Labrador, to and through the Straits of Bellisle, and thence northwardly, indefinitely, along the coast, without prejudice, however, to any of the exclusive rights of the Hudson Bay Company: And that the American fishermen shall also have liberty, for ever, to dry and cure fish in any of the unsettled bays, harbours, and creeks of the southern part of Newfoundland, hereabove described, and of the coast of Labrador; but so soon as the same, or any portion thereof, shall be settled, it shall not be lawful for the said fishermen to dry or cure fish at such portion so settled, without previous agreement for such purpose with the inhabitants, proprietors, or possessors of the ground: And the United States hereby renounce, for ever, any liberty heretofore enjoyed or claimed by the inhabitants thereof, to take, dry, or cure fish, in or within, three marine miles of any of the coasts, bays, creeks, or harbours of His Britannic Majesty's Dominions in America, not included within the above mentioned limits; provided however, that the American fishermen shall be admitted to enter such bays or harbours, for the purpose of shelter, and of repairing damages therein, of purchasing wood, and of obtaining water, and for no other purpose whatever: But they shall be under such restrictions as may be necessary to prevent their taking, drying, or curing fish therein, or in any manner whatsoever abusing the privileges hereby reserved to them.

(No. 13.)

Opinion of the Queen's Advocate General, and Her Majesty's Attorney General of England, upon a case submitted by the Assembly of Nova Scotia, as to the construction of the Convention of 1818, relative to the fisheries:—

Doctors' Commons, 30th August, 1841.

MY LORD,—We are honored with your Lordship's commands, signified in Mr. Backhouse's letter of the 26th March, stating that he was directed to transmit to us the accompanying letter from the Colonial Office, enclosing the copy of a Despatch from the Lieutenant Governor of Nova Scotia, enclosing an Address to Her Majesty from the House of Assembly of that Province, complaining of the continued encroachments of American fishermen on the fishing grounds of Nova Scotia, and the adjoining Colonies, and praying that Her Majesty would establish, by an Order in Council, general regulations for the protection of the Fisheries, according to the code annexed to the Address.

Mr. Backhouse is pleased to request that we would take these papers into consideration, and report to your Lordship our opinion, whether there is anything in the proposed regulations which would be inconsistent with the stipulations of the Convention of the 20th October, 1818, between Great Britain and the United States of America.

We are also honored with Mr. Backhouse's letter of the 19th April, stating that he was directed to transmit to us a further letter from the Colonial Office dated the 16th instant, enclosing the copy of a Despatch from the Lieutenant Governor of Nova Scotia, covering a copy of an Address from the Legislative Council of that Province, objecting to one of the above mentioned regulations proposed by the House of Assembly in the Session of 1848, and to request that we would take these matters into consideration, in addition to those referred to in his letter of the 26th March last, and that we would report to your Lordship, at our earliest convenience, our opinion thereon.

We are also honored with Mr. Backhouse's letter of the 8th June, stating that he was directed to transmit to us the accompanying letter from the Colonial Office, together with the copy of a Despatch from the Lieutenant Governor of Nova Scotia, enclosing a copy of a Report of the House of Assembly, on the subject of the Fisheries of that Province, and also enclosing a case for opinion, as to what rights have been ceded to the citizens of the United States of America, and as to what rights have been exclusively reserved to Her Majesty's subjects, and to request that we would take the papers into consideration, and report to your Lordship our opinion on the several questions stated in the case above mentioned.

We are also honored with Mr. Backhouse's letter of the 5th ult., stating that he was directed to transmit to us a correspondence, as marked in the margin, which has passed between the Foreign Office and Mr. Stevenson, the American Minister at this Court, and the Colonial Department, on the subject of a remonstrance addressed by Mr. Stevenson, against the proceedings of the authorities in Nova Scotia, towards American fishing vessels, encroaching on the fisheries of that coast, and to request that we would take these papers into consideration, and to report to your Lordship our opinion thereupon.

1st Query.—In obedience to your Lordship's commands, we have taken these papers into consideration, and have the honor to report that we are of opinion, that the Treaty of 1783 was annulled by the war of 1812; and we are also of opinion that the rights of fishery, of the citizens of the United States, must now be considered as defined and regulated by the Convention of 1818; and with respect to the general question, "*if so, what right,*" we can only refer to the terms of the Convention, as explained and elucidated by the observations which will occur in answering the other specific queries.

2nd and 3rd Query.—Except within certain defined limits, to which the query put to us does not apply, we are of opinion, that by the terms of the Convention, American citizens are excluded from any right of fishing within three miles of the coast of British America, and that the prescribed distance of three miles is to be measured from the headlands, or extreme points of land next the sea, or the coast, or of the entrance of bays, or indents of the coast, and consequently,

that no right exists, on the part of American citizens, to enter the bays of Nova Scotia, there to take fish, although the fishing being within the bay, may be at a greater distance than three miles from the shore of the bay, as we are of opinion that the term "head land" is used in the Treaty to express the part of the land we have before mentioned, including the interiors of the bays, and the indents of the coast.

4th Query—By the Convention of 1818, it is agreed that American citizens should have the liberty of fishing in the Gulf of Saint Lawrence, and within certain defined limits, in common with British subjects; and such Convention does not contain any words negating the right to navigate the Passage or Strait of Canso, and therefore it may be conceded, that such right of navigation is not taken away by that Convention: but we have now attentively considered the course of navigation to the Gulf, by Cape Breton, and likewise the capacity and situation of the passage of Canso, and of the British Possessions on either side; and we are of opinion that independently of Treaty, no Foreign country has the right to use or navigate the Passage of Canso; and attending to the terms of the Convention, relating to the liberty of fishing to be enjoyed by the American citizens, we are also of opinion, that that Convention did not, either expressly or by necessary implication, concede any such right of using or navigating the passage in question. We are also of opinion, that casting bait, to lure fish in the track of any American vessels navigating the passage, would constitute a fishing, within the negative terms of the Convention.

5th Query—With reference to the claim of a right to land on the Magdalen Islands, and to fish from the shores thereof, it must be observed, that by the Convention, the liberty of drying and curing fish (purposes which could only be accomplished by landing) in any of the unsettled bays, &c., of the southern part of Newfoundland, and of the Coast of Labrador, is specifically provided for; but such liberty is distinctly negated in any settled bays, &c., and it must therefore be inferred, that if the liberty of landing on the shores of the Magdalen Islands had been intended to be conceded, such an important concession would have been the subject of express stipulation, and would necessarily have been accompanied with a description of the inland extent of the shore, over which such liberty was to be exercised, and whether in settled or unsettled parts, but neither of these important particulars are provided for, even by implication, and that, among other considerations, leads us to the conclusion, that American citizens have no right to land, or conduct the fishery from the shores of the Magdalen Islands. The word "shores" does not appear to have been used in the Convention in any other than the general or ordinary sense of the word, and must be construed with reference to the liberty to be exercised upon it, and would, therefore, comprise the land covered with water, as far as could be available, for the due enjoyment of the liberty granted.

6th Query—By the Convention, the liberty of entering the Bays and Harbours of Nova Scotia, for the purpose of purchasing wood and obtaining water, is conceded in general terms, unrestricted by any condition expressed or implied, limiting the enjoyment to vessels duly provided with those articles at the commencement of their voyage; and we are of opinion that no such condition could be attached to the enjoyment of the liberty.

7th Query—The rights of fishing ceded to the citizens of the United States, and those reserved for the exclusive enjoyment of British subjects, depend altogether upon the Convention of 1818, the only existing treaty on this subject between the two countries, and the material points arising thereon, have been specifically answered in our replies to the preceding queries.

We have, &c.

J. DODSON,
THOS. WILDE.

Viscount Palmerston, K. E., &c. &c. &c.

(No. 14.)

Copy of a Letter from M. H. Perley, Esq., to the Provincial Secretary, with Report on the Fisheries of the Bay of Fundy, March 1851.

Government Emigration Office,

Saint John, N. B., 12th March, 1851.

Sir,—In obedience to the command of His Excellency the Lieutenant Governor, communicated in your letter of 6th July last, that I should examine and report upon the Fisheries of the Bay of Fundy, so soon as my duties as Emigration Officer would permit, I commenced the performance of that duty on the 20th of August, accompanied by George Hayward Perley, my second son.

The Island of Grand Manan was visited, in a hooker of 16 tons, belonging to Deer Island, which I hired for the trip. Campo Belo, West Isles, and the shores in that vicinity, were examined in boats of all sizes, adapted for visiting the several localities. The upper part of the Bay of Fundy, (including Cumberland Bay, and the Basin of Mines,) was examined in the Sloop Cutter "Juno," which I engaged and fitted out for that service. The south shore of Nova Scotia was examined by land, the season being too far advanced, and the weather too stormy, to admit of its being visited in the Cutter, without great delay.

I have now the honor to present the accompanying Report, which embodies the information obtained while engaged in performing the duty assigned to me, together with some other information, in relation to the Fisheries generally, the markets for fish in foreign countries, the American bounty system, and the destruction of fish on spawning grounds.

With this Report, I have also the honor to present, a descriptive Catalogue [in part] of the Fishes of New Brunswick and Nova Scotia; in which an attempt has been made to classify the fishes of these Colonies, according to the system of Baron Cuvier, in their several orders, families and genera. In the descriptions of the various species, I have embodied observations made during a long series of years; and with a very few exceptions, I have described such fish only as I have myself seen and handled.

This incomplete Catalogue is offered with the hope, that it may lead to further inquiry, and a more perfect knowledge of the habits, haunts and seasons of the fish of our waters; not merely as a matter of interest to the scientific inquirer, but as being of much value to the practical fisherman, who by better information, may be greatly benefited in his calling.

Before entering upon the duty entrusted to me, I made application to His Excellency Sir John Harvey, Lieutenant Governor of Nova Scotia, for permission to pursue my inquiries on the Nova Scotia side of the Bay, and a copy of the Commission under Seal, which His Excellency was pleased to transmit me, is annexed to this Report.

A copy of the Circular Letter of Inquiry, which I caused to be printed and circulated, is also annexed to this Report, with some of the replies thereto.

I beg to direct especial attention to the letter in the Appendix, from the Hon. John E. Fairbanks, of Halifax, which contains information and suggestions possessing much interest.

The Hon. the Commissioners of British Fisheries, besides noticing my Report of last year in their Annual Report to Parliament, very kindly forwarded to me a complete set of their Parliamentary Reports, and of the Imperial Acts in relation to the British Fisheries, all which have been of the greatest service. I have also to express my obligation to their Secretary, the Hon. Bouverie Francis Primrose, for his prompt attention in forwarding the prices of fish in Scotland during the last five years; and for valuable information respecting the markets for fish in Europe, drawn from his admirable Report to the Board of Trade, on that important subject.

The directions for taking and curing herrings, and for curing cod and hake, issued by the Board of British Fisheries, having been approved by His Excellency the Lieutenant Governor, one thousand copies thereof were reprinted, and distributed by me, among the fishermen in the several localities visited, by many of whom these directions were greatly approved, and highly appreciated.

At every place visited, my mission appeared to give much satisfaction. The greatest kindness was everywhere shewn to myself and my son, and very many persons were at great pains to render us assistance. The hospitality invariably extended to us, and the facilities which were cheerfully granted on both sides of the Bay, demand my most sincere acknowledgements.

I have the honor to be, Sir,

Your very obedient servant,

M. H. PERLEY.

The Honorable John R. Partelow, Provincial Secretary.

(No. 15.)

Copy of Commission, from His Excellency the Lieut. Governor of Nova Scotia.

PROVINCE OF NOVA SCOTIA.

By His Excellency Lieutenant General Sir John Harvey, Knight Commander of the Most Honorable Military Order of the Bath, Knight [L.S.] Commander of the Royal Hanoverian Guelphic Order, Lieutenant Governor and Commander in Chief in and over Her Majesty's Province of Nova Scotia, and its Dependencies, &c. &c. &c.

J. HARVEY, Lt. Governor.

To all Magistrates, Sheriffs, Revenue Officers, and others, inhabitants of said Province :—

Moses H. Perley, Esquire, having been instructed by His Excellency the Lieutenant Governor of New Brunswick, in Council, to inspect and report upon the Fisheries of the Bay of Fundy, during the present season, and having requested from me permission to prosecute the necessary inquiries on the shores of Nova Scotia, within the Bay of Fundy, which permission is hereby granted—

I do, by these Presents, instruct and require you to give to the said Moses H. Perley such information and assistance as he may request from you, or any of you, in reference to the said fisheries.

Given under my hand and seal at arms, at Halifax, this twenty ninth day of July, in the year of our Lord one thousand eight hundred and fifty, and in the fourteenth year of Her Majesty's Reign.

By His Excellency's Command.

JOSEPH HOWE.

(No. 16.)

[Circular.]

Government Emigration Office,

St. John, N. B., 12th Aug. 1850.

SIR,—Having been appointed by His Excellency the Lieutenant Governor of New Brunswick in Council, to inspect and report upon the Fisheries of the Bay of Fundy—and His Excellency Sir John Harvey, Lieutenant Governor of Nova Scotia, having, by Commission under Seal, authorized me to prosecute the necessary inquiries on the Shores of Nova Scotia, within the same Bay—I beg to acquaint you that I am desirous of obtaining information on the following points :—

1st. As to the present mode of conducting the fisheries for herrings, shad, salmon, cod, pollack, haddock, hake, and mackerel—as also descriptions of the nets, lines, and other tackle now employed, in order to know if any, and what, improvements may be introduced.

2d. As to the proper season for each fishery; and whether fish, of any description, are now caught, at times when they are of no real value.

3d. Whether herrings are now taken by “driving,” with torch-light; and whether the use of standing weirs are, or are not, injurious to the herring fishery, and destructive to the fry of other fish.

4th. As to the modes now in use of curing and packing the several descriptions of fish, with the view of ascertaining what defects exist in these important particulars.

5th. As to the extent to which the fisheries are injured, as is said, by the use of herrings, and the fry of other fish, for manure.

6th. As to the extent to which the fisheries, in the Bay of Fundy, are encroached upon by foreigners.

7th. As to the extent to which the fisheries, in the various rivers flowing into the Bay, have been injured by mill-dams and other obstructions, or by illegal modes of fishing.

8th. The shad fishery in the upper part of the Bay being of much importance and value, and that description of fish becoming every year in greater demand, at an increased price, it is extremely desirable that the most full and accurate information, respecting this fishery, should be obtained, with the view of ascertaining the quantity of fish now caught annually, and the extent to which the fishery may be safely prosecuted.

I respectfully request you to furnish me with whatever information you possess, in connection with the foregoing inquiries, or which may be interesting or useful, as regards the fisheries generally. Any observations as to existing nuisances, obstructions to the sea or river fisheries, the destruction of fish by extraordinary means, or at unusual seasons, and as to the means of remedying these grievances, will be gladly received.

As the work in which I am engaged is of great importance to the interests of the people of New Brunswick and Nova Scotia, I venture to rely upon your assistance and co-operation in carrying it out as fully as possible. Any communications upon the subject, you will please address to this Office.

M. H. PERLEY.

(No. 17.)

Copy of Letter from Cochran Craig, J. P., of Grand Harbour.

Grand Manan, 10th December, 1850.

SIR,—According to promise, I proceed to give you my views as required by your Circular of 12th August, respecting the fisheries. In reply to your first inquiry, I beg to say, that the fisheries around this Island are those for herring, cod, pollack, haddock, and hake, which alone are steadily prosecuted.

Herrings are taken in nets, with meshes suited to the different sizes of the fish, set in-shore during the night, and on the outer soundings in the day time, when only it is practicable to fish there. They are also taken in weirs, which are now put down here on every bar, and in almost every channel which those fish play through, and even around our shores. This mode, I think, must be most destructive, as in securing such as are generally fit for use, they destroy double the quantity saved, of those that are entirely too small for any purpose whatever, but manure.

All other fishes are taken here by hand lines, calculated for various currents and depths of water.

In answer to your second inquiry, I have to state, that I learn from the most experienced fishermen here, the only improper season for fishing for herrings with nets, is from the middle of July, till the middle of September, on the spawning ground at the Southern Head, as they are then and there taken in the act of spawning, and not good; the fishery must be injured, from the very great destruction of spawn, by the working of the nets. All seasons are considered proper for the catch of every other fish, they always proving good, and no damage being considered to arise to the fishery from their being so taken.

To your third inquiry, I reply, that few herrings are now taken here by driving with torch-light, as, at the proper times of tide for this business, there are none to drive, they being principally, as it were, in pound, and often kept there, dead or alive, big or little, until damages are paid before even a few can be got out for bait. That these standing weirs are most injurious to the herring and in-shore line fisheries, none that I have talked with on the subject, pretend to deny, and they lately have been many of our oldest and best fishermen, and among them, several of the weir-holders themselves. The injury the weirs do to the fry of other fish than herring, is very little I believe, as it is very rare for the weirs here to take any other fish.

To your fourth inquiry, I answer, that after a perusal of the directions you handed me, as to the curing of herrings and other fish, I consider the curing and packing of fish taken here as quite defective, and conclude that to remedy the evil, the fishermen cannot do better than adhere closely to those directions, and adopt the modes of curing and packing therein set forth. But instead of this, they will tell you, that they can do better by selling fish, and can find a quicker market for them, as now cured and priced, than if managed agreeably to those directions.

To your fifth inquiry, as to the extent to which the fisheries here are injured by the use of fish for manure, I will, with a large majority on my side say, that I consider the extent to which our in-shore fisheries are, and have been, for ten year past, injured by the destruction of herrings, both fit and unfit for proper use, taken in the weirs, is almost endless. The heavy schulls of herring fry being yearly cut up by those weirs, and the cod and pollack having no bait to draw them in-shore, they are only to be found far out in deep water, where boats and small vessels (the poor man's dependance) cannot follow them.

To your sixth—The extent to which our fisheries are encroached upon by foreigners, both by their fishing within limits for hake, and netting for bait at the Southern Head in the spawning season, is I believe very considerable, but might, I think, be prevented by a more rigid enforcement of the existing laws. Our Overseers of Fisheries are all fishermen themselves; none other can here be had, and they cannot be expected to complain of their neighbours to their loss. There is here much inefficiency in this respect, but I must leave the prescription of a remedy to yourself.

I am unable to give any reply to your other inquiries, as there are no river fisheries in this Island, nor any shad fishery.

I find the views of the different investigators of these matters sent here by the Government about as various as the different kinds of fish. Some of them say, that all the herrings taken here by weirs, are not at all missed in the sea. They say the weirs would always be filled up with herring, if the weir stakes and brushwood did not frighten them off into deep water; my reason for their leaving is, that they are all killed. With my neighbours here, experienced fishermen, I agree, that herrings do not come in from sea at all, but are spawned on our spawning ground, and play round our shores until taken; and that such as are not taken, continue to do so until they are full grown; when they know our shores as well as sheep know their pasture. Then they go off to sea, where they remain, frequenting shoals, and in-shore places, only to deposit their spawn. We catch no spawning herrings, and but few large enough to spawn, in our weirs. It is considered a settled point by all experienced fishermen on this Island, that while so many weirs as are now erected here, are allowed to stand, so long will our herring and in-shore fisheries continue to decline. So long also must we be annoyed with obstructions to our navigation, which many of the weirs are at present.

Next to the weirs, the falling off of our fishery may be attributed to the very great destruction of spawn, for many years past, at the Southern Head, by the catch being allowed there at all seasons, without proper restrictions. I think this might be remedied, by re-enacting the expired law relating to this fishery passed in 1834, which prohibited all netting on this ground, from 20th July, to 20th October, with an amendment, allowing only one boat to each vessel. During the continuance of this law, our herring and other in-shore fisheries, upon which the main body of our Islanders depend for support, was remarkably improved; at that time, however, there were no weirs here.

The practice of throwing offal upon the fishing grounds by foreigners and careless persons, should be prevented by permanent fishery laws. The preservation of spawn ought also to be attended to; but what will be the use of this, if the herrings are to be fenced in, and killed, before they are the length of your finger?

Your obedient servant,

COCHRAN CRAIG.

M. H. Perley, Esquire.

(No. 18.)

Copy of Letter from Daniel M'Laughlin, Esq., Capt. of Militia.

Grand Manan, S. W. Head, Oct. 9, 1850.

Sir,—It gives me great pleasure to furnish you with information, respecting the fishery at the S. W. Head of Grand Manan. I have resided here 21 years, and during 18 years of that time, was Overseer of the Fisheries. When I first came, the Americans set nets, and robbed the St. John fishermen of their warps and anchors at noon day. I complained of this to their own officers, who took two of the vessels, with the anchors and warps on board of them. At that time, not more than eight St. John vessels fished here for herrings. But at the present time, there are from 40 to 50, all on a small space of ground, with ten, twenty, and thirty nets to each vessel. When the nets are taken up in the morning, they are replaced by others, so that the passage of the fish is obstructed. The nets will become so loaded, that the webs drop from the cork rope, and are then left to rot upon the bottom, except what few they can grapple up. By these means, the fish are driven from their spawning ground; for this mode of fishing is constantly kept up, Sunday not excepted.

It is well known that Grand Manan is the key of the fisheries in the Bay of Fundy. The passage of fish is obstructed by weirs, in every place where the fish resort, and not one with a lawful gate; some without any, and those chiefly owned by foreigners, which I beg to say, are no benefit to any but those that own the privilege. Some of them even bring their building timber, their box-stuff, and barrels; when the fishing is over, they take all their fish to Campo Bello, or Indian Island, where they remain until opportunity serves to get them into the United States, and get the American brand upon them. Not one of these fish goes to a British market.

In 1834, the inhabitants petitioned and got a law passed, which remained in force until May 1837. They want the same law in force now, with a little amendment, as to vessels having boats attached to them—only one boat for the use of the vessel. By this law, the fisheries for cod-fish and herrings both revived, while it was in force. I took 70 barrels of the best of herrings, with 15 fathoms of net, 2½ inch mesh, in November 1835; at that time, they were worth 20s. per barrel.

Yours, &c.

DANIEL M'LAUGHLIN.

M. H. Perley, Esq.

(No. 19.)

Copy of Regulations for the Shad Fishery in the County of Cumberland, Nova Scotia.

I. It is ordained, that the rules and regulations made at a Special Sessions of the Peace on the 14th day of April, 1840, for the District of Fort Lawrence in the said County, be continued and in full force, as they were made aforesaid, on the said day, viz:—that the Fort Lawrence District have liberty to make their own regulations relative thereto; that no net shall exceed fifty fathoms; and that no family be allowed to set more than that number of fathoms in different nets.

II. That all the nets shall be set on lines, from the shore towards the bank of the river or bay, and that no two lines of nets shall be set in the range of the tide or current, nearer than one hundred and fifty yards of each other: provided, nevertheless, that the Overseers be permitted to allow of the setting of nets, either above or below said lines of nets.

III. That the Overseer lay off these several lines, as many as he may deem necessary, for the accommodation of the inhabitants for the District of Fort Lawrence interested in the fisheries; and that each person ballot for his right to a place in such line or lines, each right or share not to exceed twenty five yards in each line, which he may ballot for, according to the number of fathoms in first section.

IV. That the Overseer be required to give six days notice, by advertisement, previous to said laying off and balloting.

V. That these fisheries are the undoubted right of the inhabitants of the District of Fort Lawrence, but it is there opinion that whenever the ground for the inhabitants be laid off, that the Overseers shall admit of any other person to participate in the same advantage, until the ground be taken up under these regulations.

For the Township of Amherst.

I. It is further ordained, that there shall not be any drift-net or nets, allowed to be drifted from the mouth of the river Missaguash, up to Amherst Point Marsh, opposite Barronsfield in said County.

II. It is further ordained, that one net and no more, be allowed to each householder, so that only one net be allowed to each house, and that no other person or persons be allowed a net or nets in any of the strings of nets hereafter mentioned.

III. It is further ordained, that whenever ground for the householders of the Township of Amherst be laid off, that the Overseer or Overseers be allowed to admit of any other person or persons, being householders, so that only one net be allowed to each house.

IV. It is further ordained, that no net or nets of any person or persons, shall be more than twelve fathoms in length, and the depth thereof as each individual may think proper.

V. It is further ordained, that five strings of nets be allowed to be set, from the mouth of the River LaPlanche, to what is called McColly's Upper Creek; and that other strings of nets be allowed from McCully's Upper Creek, to Amherst Point Marsh, allowing that no string of such nets be nearer to each other than five hundred yards.

VI. It is further ordained, that the first mentioned five strings of nets be numbered from the mouth of the River LaPlanche upwards.

VII. It is further ordained, that the owner or owners of the soil opposite the strings of nets, or ground taken up for the same, shall have the first privilege or choice; and that the person or persons who had set nets on previous year or years, shall have the second privilege; and in case of any difficulty with either of the above parties, the Overseer or Overseers shall draw lots in relation for either of the above parties, as the case may require, either for the first, second, or third.

[For a breach of any of the above Regulations, a penalty not exceeding 40s. is imposed.]

(No. 20.)

Copy of Letter on the Deep Sea Fisheries, from the Honorable John E. Fairbanks, of Halifax, Nova Scotia.

Woodside, 18th November, 1850.

DEAR SIR,—Previous to the receipt of your kind favour of the 12th, I had made a few notes relative to our fisheries. I much regret that my practical information is so meagre, in a branch of industry of such vital importance to the people of these Colonies; such as it is, however, with the result of some recent inquiries, I now give it you.

The Custom House returns as to fish, will give you some idea of the imports and exports of this article. From them, you will learn, how large a quantity we receive from Newfoundland, for which cash is paid to a great extent; but no information can be obtained as to our domestic consumption. It is doubtless very great, as there is scarcely a family but uses fish, in various shapes; yet this demand would be greatly increased, if the modes of cure were improved, and the quality could be relied upon. The farmer who teams a barrel of fish a long distance into the interior, and then finds them bad, is cautious how he buys in future. A rigid inspection law, properly carried out, would be of great service.

I think there is scarcely a man in the Province, who has a correct idea of the present value of our fisheries; and I am sure, that few can conceive to what extent they are capable of being carried, under sound and judicious legislation and management. We have not only no bounties, but not one shilling of public expenditure has ever been disbursed, in improving a fishing port or station.

All our nets, lines, and twines, are imported, the light and simple manufacture of which, might, I think, be introduced, and thus furnish employment to the families of fishermen during the winter season.

With respect to the mode in which our fishing is conducted, there is—first, the Bank fishery; and second, the Shore fishery. Our "Bankers" are generally of small size, from 20 to 50 tons, neither so well constructed, fitted or found, as those of the Americans. Our vessels go to sea, from the 1st of April, to the 1st of May. They continue cod-fishing, on the various banks, between Cape Sable and Cape Canso, until about the 10th of June. The cod they take, are very fine, thick, well-fed fish. If well cured in pile, not pickled in casks, they would suit the Spanish market, and get there earlier than those from Newfoundland, by two months. Those pickled in casks before being dried, give on the voyage; and this, no doubt, has caused the loss of many cargoes, by what is called "sweating."

These "Bankers" also take halibut, sometimes in large quantities; but the fins only are used, whereas the whole bodies, when properly preserved and dried in strips, would meet a good market in the United States. The tongues and sounds of the cod, are also generally thrown away, in the hurry of cleaning.

Much time is lost by these "Bankers" in coming home on Saturday night, as part of the following week is spent in returning to their fishing ground. The Americans cannot do this, consequently have more time to secure their fares.

In June, our "Bankers" proceed to Cape Breton, the Gulf of St. Lawrence, or the Labrador, whence they return with cargoes of cod, seal-skins, &c. Many reach home about the last of August, and commence the catch of dog-fish, which are valuable on account of the oil their livers yield. Eight hundred dog-fish, of good size, yield a barrel of oil of 31½ gallons. Their dried bodies are sold at 2s. 6d. per hundred, for feeding pigs during the winter. Two fish, boiled or roasted, per day, will feed a good sized store pig, from November until May, when the food must be changed, and the flavour given by the fish will be entirely obliterated. This is one of the most valuable branches of our fishery; its outfit costs very little, but it is limited, both by neglect and an unfortunate prejudice against the use of the fish, as food for pigs.

The fishing for dog-fish having slackened, our vessels are next engaged in taking herrings and mackerel, continuing to fish for the latter until late in November. During some seasons, this is done with nets and seines; but the quantity taken in the seines is sometimes very large, and then the cure is not so good, causes a decided preference to be given to the net fish.

The second branch, the shore or boat fishery, is carried on to a greater or less extent, along our whole coast. Whale-boats manned by 2 to 4 men, and large sail boats, undecked, are used. They commence about the 20th of May, and fish within the distance of 10 to 15 miles from the land. The diligent and active make a tolerable living, and keep out of debt; but as these men have generally a few acres of land, with some cattle and sheep, their time is divided between fishing and farming, which operates injuriously to both; many of them are therefore poor, and unable to pay for their outfit. This compels them to hire with others the following year; after that, they seldom redeem their promises to the merchant.

With regard to the fishery within this harbour, I may observe, that it is chiefly carried on in boats, and where any number of "Bankers" might be employed, I may say, we have not one deserving the name.

Between Halifax and Cape Sable, about twelve miles, there are three fishing stations on the western shore, viz:—Ferguson's Cove, Herring Cove, and Portuguese Cove. I regret that I cannot give you either the number of men or boats, or the quantity of fish cured; it is however very considerable. The fishermen there, cure a large quantity of cod, mackerel, and herring; they have many seines and nets, and generally are in comfortable circumstances. They supply the Halifax market with cod, haddock, mackerel, salmon, herrings, lobsters, and a few other varieties of fish.

Few fish markets in America are better supplied, or at cheaper rates, than that of Halifax. With a little more exertion, and by good prices, it might be made equal to the demands of the population, however extensive.

On the eastern side of the harbour, south of Woodside, there is a population of about one thousand, many of whom reside on their own farms, and prosecute the shore fishery; they have also two or three small "Bankers," and although

either the fishing or farming might afford them a living, I attribute all the poverty that exists among them, to the union of the two pursuits, which has invariably ended in disappointment.

I will now give a short detail of my own experience at Woodside, where I recently had the pleasure of seeing you. About three years since, I visited Cape Cod and Marblehead, in order to learn their mode of conducting the fishery, and to procure some experienced men. I was told, that the best they had were Nova Scotians. They were surprised to find us behind them, with advantages so much superior to their own—they having to sail one thousand miles to the fishing banks, out and home, while those banks are almost at our very doors—this, with the low cost of our vessels, salt, &c., naturally induced them to think, that it would be a more profitable pursuit with us, than with them. So I thought, and I still continue of the same opinion. On my return, I bought a small vessel, built the flakes, and commenced a small establishment. There has been no scarcity of fish on the ground; those cured were of good quality, early in market, and sold well. Had I been able to offer 1000 to 1500 quintals of codfish in the market, I have little doubt but 15s. per quintal might have been obtained for them; but the quantity was too small to make up a cargo, except for the West Indies, with other parcels. The result, however, of the three years has been unfavourable,—the vessel's half of the fish, not producing more than enough to pay the provisions and supplies, leaving nothing for wear and tear. The want of exertion on the part of the crew, their insubordination, carelessness, and improvidence, have led to these results, and deterred me from increasing an establishment, which I feel assured, would not only be profitable to me, but beneficial to the community; but I am not without the hope, that fitter men may yet be found.

We ought to have five hundred sail at least out of this port. They should not come into port during the season, unless to land fish, or from unavoidable necessity. A shore crew should make the fish near the city, where suitable labour could be easily got. Fish can be made, in clear weather up the harbour, while the coast is enveloped in fog.

From my own experience, corroborated by practical men, I entertain the opinion, that the fishing on our coast could be made more profitable than that of Newfoundland. There the season is short, and the weather more uncertain, while from hence, including a Bay voyage, the fish may be taken the whole year. Our fisheries, however, receive no support from the Government; our merchants furnish the provisions and supplies only, not owning the vessels themselves. The American bounties, and protective duties, enable them to give our fishermen high wages, and we cannot be surprised that our best men leave us.

New Brunswick has, I think, acted wisely in directing the inquiry you are now engaged in making, and must feel much indebted to you, for your exertions in exploring this valuable branch of her resources. I wish our Government would copy the example, for the period will soon arrive when our attention must be turned more seriously towards the fisheries, and then, the value of these investigations will be duly appreciated.

The mackerel fishery, on the Sable Island banks, has this season been productive, and seines have been used in hauling, on the shores of that Island. This will induce a larger outfit next season, the prices in the United States being now very high.

I have often thought, that when men of capital and enterprise turn their attention to this branch of industry, as they no doubt will do hereafter, many improved modes of conducting it will be introduced. Steam, which has been pressed into the service of every other business, will I think be found equally applicable to this. Propellers of a cheap cost might be employed; they would carry a larger crew that could catch fish, as it is a simple act once they are hooked. They could speedily weigh anchor, shift their ground, keep their crew comfortable when off work, and run into and out of port without loss of time, leaving to shoremen the labour of making the fish, and so fishing the whole season with little interruption. This is one idea.

Next, steam is employed in drying many articles of merchandise—why not fish? How much labour is lost, after the fish are taken and salted! How many cargoes are spoiled in making, from exposure to bad weather, and destroyed by becoming salt-burnt, mildewed, and slimy! Could science not discover some

practical plan of curing them, in suitable buildings, by steam? I think it may, and yet will be done.

I met a fisherman yesterday from Canso, who had been driven off the land some forty miles. He assured me, that he ran all night through unbroken shoals of mackerel, steering south-west. Now, on our shore, this fishery has been a failure this fall, and this man's report tallies with those of many old fishermen with whom I have formerly conversed, namely, that mackerel are abundant every season, but from some cause, at times, pass to the westward in the fall, at a great distance from the land. This fact, although well known, has not yet led to the introduction of the deep-sea net fishery, as followed in the North Sea, where at times 300 fathoms of net are used by one vessel, in taking herrings; this mode may one day be used here, with advantage.

The bultow fishing, as followed by the French on the Grand Bank, is not known on our shores; some fishermen think it would do, but they have not the enterprise to try it.

These ideas have frequently occurred to me; it is now rather late in life, for me to engage in a pursuit of this nature, but the field is boundless. The supply can never be exhausted, nor the demand that exists in almost every country be satisfied. In a few years, America itself will consume all these Provinces can furnish, and I hope the inventive spirit of the age will apply itself to the investigation of these subjects, and point out to the young and enterprising, improved modes of applying their exertions to this most valuable branch of North American industry.

I regret that this communication, instead of these discursive remarks, does not contain that precise statistical information of which you were in search. I would gladly have substituted it instead, but as I had prepared you to expect, that it could not easily be procured, I hope you will not feel disappointed. I so highly approve of the service in which you are engaged, that I was willing to give you my ideas on the subject, however imperfect they might be; but I shall neglect no opportunity of furnishing you, with any further information I may acquire on this interesting subject.

I am, my dear sir, &c.

JOHN E. FAIRBANKS.

J. H. Perley, Esquire.

(No. 21.)

Extract of a Despatch from Lord Stanley to Lord Falkland, dated 17th September 1845, preceded by a note of the circumstances which led to its transmission.

In 1841, Mr. Stevenson, the American Minister at the Court of St. James, addressed a note to the Secretary of State for Foreign Affairs, complaining of the authorities of Nova Scotia for having seized a number of American vessels, which were fishing within head-lands, but yet, at a greater distance than three miles from the land.

This complaint led to a case being submitted by the Assembly of Nova Scotia, as to the construction of the Convention of 1818 relative to the fisheries, and the opinion of the Queen's Advocate General, and Attorney General of England, was thereupon given, that the prescribed distance of three miles was to be measured from headlands, or extreme points of land, and not from the indents of the coast. This opinion will be found in the present Appendix as No. 13.

The American Minister continued to reiterate his remonstrances until 1845, when Lord Stanley, by a Despatch to Lord Falkland, dated 19th May 1845, intimated that Her Majesty's Government deemed it advisable, for the interests of both countries, to relax the strict rule which excluded American fishing vessels from entering the Bays, on the coast of British North America.

Lord Falkland immediately communicated to Lord Stanley his objections to the proposed arrangements, which were couched in very strong terms. The Honorable Mr. Simonds, then a member of the Executive Council of New Brunswick, being about to proceed to England, was instructed by the Council to oppose the proposed concession. In London, Mr. Simonds met the Honorable George R. Young, who immediately bent his energies to the same end. On the 4th of August 1845, Mr. Young presented to Lord Stanley, a most able and elaborate paper upon the fishery question, which appears to have had great

weight; it is to be regretted, that this valuable document has not yet been published. The exertions of Mr. Simonds and Mr. Young were successful, and the following statements made by those gentlemen on their return, in the Legislatures of New Brunswick and Nova Scotia, of which they were respectively members, will best explain their proceedings.

On the 2nd of February 1846, in the House of Assembly, Mr. Simonds rose and said—"He had some explanations to make relative to the right of the Americans to fish, under the Convention of 1818. It had been the intention of the Home Government to concede, to the fishermen of the United States, the right to fish in our waters. At a meeting of the Council in this Province, it was considered highly important, that personal remonstrance should be made on the subject, to the authorities in Great Britain; and as he (Mr. Simonds) was about going to Europe, an Order in Council was passed, authorizing him to make the proper representations. He was the only person officially appointed by the Colonies; but on his arrival in London, he found a distinguished Nova Scotia gentleman, (George R. Young, Esq.,) who was anxious to join him. The Gaspé Fishing and Mining Company were also anxious to depute a gentleman to join with him. Believing that he would be materially assisted by these gentlemen, he gladly acceded to the proposition, and they waited first, upon a member of the Board of Trade, whom they made acquainted with the facts of the case. They then had an interview with Mr. Hope, the Under Secretary for the Colonies, to whom they represented the case in its strongest light. They next saw Mr. Addington and Mr. Hope together, and went thoroughly into the case with them, shewing the injury the contemplated measure would inflict upon the Colonies. These representations, they had good reason to believe, were effectual. They then had an interview with Lord Stanley, to whom they made the same representations. In this duty, it fell to him, (Mr. Simonds) to state the case, he being the only person officially appointed, but he was ably assisted by the other gentlemen. From Lord Stanley they received assurance, that nothing should be done in the matter to injure the Colonies; and he (Mr. Simonds) had no doubt, the representations made, had induced Her Majesty's Government to decline, for ever, the proposal of yielding to the United States any further rights to fish in our waters, than those already granted before he (Mr. S.) had gone to England. The Americans, under this arrangement, were at liberty to fish in the Bay of Fundy, provided they did not come within three miles of the shore."

On the 14th February 1846, the Hon. Mr. Young laid on the table of the Assembly of Nova Scotia, copies of the documents which he had prepared in England on this subject, including the able letter to Lord Stanley already mentioned, accompanied by the following memorandum:—

"After the transmission of my note of 1st August, Mr. Simonds and myself had a long interview, by appointment, with Mr. Hope, and Mr. Addington of the Foreign Office, on the subject of these concessions, and before whom the effect of them was fully discussed. Our strong ground of argument was, that the right of the Colonies being determined by the Treaty of 1818, the interpretation of that Treaty should be left without further negotiation, to the action of the High Court of Admiralty.

"By the steamer which left Liverpool on the 4th August, I sent a letter to the Speaker, and my other political friends, requesting them to take such action on it, as they might deem advisable.

"On the 6th August, the second note and the letter which accompanied it, were sent in, with the full approval and sanction of Mr. Simonds.

"A note from the hon. Colonel Wilbraham, the Private Secretary of Lord Stanley, was received, appointing a day for an interview.

"Such interview was accordingly held; and at the same time, Mr. Norman, and other gentlemen representing the interests of the Gaspé Fishing Company, Mr. Simonds as the Agent of New Brunswick, (Henry Bliss, Esq., not being then in London,) and myself, as a Member of the Legislature of Nova Scotia, were received by Lord Stanley, and Mr. Hope, at the Colonial Office. The question was then fully discussed in all its bearings; and Lord Stanley said, at the conclusion of the conversation, that no decision should be come to, until we were further consulted. On behalf of the Legislature and the country, I earnestly entreated, that the concessions sought for by the American Minister should not be ceded, until the question should be submitted to the Assembly.

"On my return to London, from Scotland, in September, I ascertained at the Colonial Office, that the Government had determined not to grant the concessions sought for, and that a Despatch, of which I saw the copy, had been sent to their Excellencies Lord Falkland, and Sir William Colebrooke, by the Mail of the 19th September, to that effect."

The following is an extract from the Despatch alluded to, as being addressed to Lord Falkland :—

"Downing Street, 17th September, 1845.

"Her Majesty's Government have attentively considered the representations contained in your Despatches, No. 324 and No. 331, of 17th June and 2d July, respecting the policy of granting permission to the fishermen of the United States to fish in the Bay of Chaleur, and other large bays of similar character, on the coast of New Brunswick and Nova Scotia; and apprehending from your statements, that any such general concession would be injurious to the interests of the British North American Provinces, we have abandoned the intention we had entertained upon this subject; and shall adhere to the strict letter of the Treaties which exist between Great Britain and the United States, relative to the fisheries of North America, except in so far as they may relate to the Bay of Fundy, which has been thrown open to the Americans under certain restrictions.

"In announcing this decision to you, I must at the same time, direct your attention to the absolute necessity of a scrupulous observance of those Treaties on the part of the Colonial authorities, and to the danger which cannot fail to arise, from an overstrained assumption of the power of excluding the fishermen of the United States, from the waters in which they have a right to follow their pursuits.

"STANLEY."

(No. 22.)

REPORT ON THE FISHERIES IN THE BAY OF FUNDY,

BY

AUGUSTUS F. KYNASTON,

ACTING COMMANDER OF HER MAJESTY'S SLOOP "PERSIAN."

HER MAJESTY'S SLOOP PERSIAN,
Saint John, N. B., 4th September, 1851.

SIR,—A successor having been appointed from England, and being about to resign the command of H. M. S. Persian, I am desirous of laying before your Excellency, knowing the interest you personally take in the Fisheries of this Province, such remarks as I have had the opportunity of making during the period of my station within the Bay, and which I much regret has been so limited.

I trust that, short as has been my time for gleaning information on this important subject, you will give me credit for having taken a lively interest in the service to which I have been called; and that, therefore, whatever remarks on the present state of the fisheries, or whatever suggestions I may wish to make to your Excellency towards their future improvement, have emanated from a close study, and I trust from a zealous line of action.

Having received notice of the appointment of my successor as far back as the middle of the preceding month, since I had the honor to report my return to Campo Bello, in a letter to your Excellency, dated August 2nd; rather than by endeavouring to gain a knowledge of the whole fisheries of the Bay, which from my limited time could only have been superficial, I have preferred to confine my efforts to the vicinity of the Grand Manan, which may be viewed as the key of the whole fisheries, and to which locality the new Act passed by the Provincial Legislature in April so materially pointed, and where, I confess, vigorous steps were required to save from utter ruin the fisheries of that Island, more especially those of the Southern Head.

The steps hitherto taken by cruisers in the Bay have seemed to incline rather to the prevention than the detection. The intelligence of a man of war leaving her anchorage soon spreads far and wide: in a cruise of a few days, wind and weather permitting, she may cover a good deal of the ground; the sight of her top gallant sails will scare delinquents ten miles off, until the time when they are below the horizon or shut in by the land, when they may be again found at their unlawful pursuits; on this point, without going any further, I would call your Excellency's attention to Mr. Perley's able Report on the Fisheries of the Bay.

What I would point out, more especially as referring to Grand Manan, is the necessity of establishing boats and smaller vessels not only for the prevention but for the detection of the law-breakers, and bringing them under the penalties of the Act.

While the "Persian" has been at anchor in Long Island Harbour, I have employed the time in cruising in her boats, and have visited every cove and fishing station that has been within my reach, and where the British flag has been rarely shewn; and while I have become thereby more or less acquainted with the habits of the fishermen, I have endeavoured to impress upon them, while I heard their complaints, that they are only to be redressed by a close attention on their part to the laws which were made for their benefit, and by supporting the Wardens and Overseers in the execution of their duty, which, since it falls upon one or two, is an arduous one.

In the appointment of Mr. Alexander and Capt. M'Laughlin, the Island must eventually reap the greatest benefit. They are very zealous, firm in their duty, without departing from a line of conciliation which is so necessary towards working out any sudden reform.

They, however, need more support than they have at present; more especially during the absence of one of Her Majesty's cruisers. I would wish to direct your Excellency's attention to the following facts:—That the Warden at present has no power independent of the Magistrate; he has not the power to detain vessels violating the Act, still less to arrest the parties themselves; all must be done by summons of the Magistrates, whose residences are far removed from the Southern Head, even should they themselves be there. Mr. Craig, of Grand Harbour, is not within six miles, and Mr. Fisher, not within nine; while the avocations of the latter require his frequent attention at Eastport.

The consequences of this are evident: firstly, that transgressors of the law are enabled to profit by the delay, in making their escape; and secondly, the Warden subjected to much labour in vain, besides considerable expenses on occasions.

As regards the working Overseer himself, Mr. M'Laughlin, he has so much work, with no remuneration; more especially, since, for the protection of the spawning ground, I thought proper to leave one of the "Persian's" boats at his disposal; I would beg strongly to recommend him to your Excellency's favourable notice.

The good effects of the boat system, I am happy to hear, have already begun to show out, and vessels are taking codfish within two or three miles of the shore, where three weeks ago they had a sorry day within seven or eight.

All these facts make it evident to me, that the preservation of the spawning ground, and a slight check on the weir system, are the sheet anchor of the fisheries. Men, not weir-holders, all naturally complain of this wholesale way of fishing, as destruc-

tive to their less extensive means of catching the herrings, both to serve as bait and for shipping for the market. I will not attempt to offer suggestions on a subject which has been so repeatedly brought forward, and which must necessarily involve a war of party.

One fact, however, I would bring before your Excellency's notice; it is this—The limits of the spawning ground off the Southern Head of Grand Manan, as established by the recent law, are between Bradford's Cove on the west, and Red Point on the eastern side of the Island. Had the law included Bradford's Cove, giving the Point usually called "Pandora Head" as the extreme limit of the forbidden ground during the spawning season, much advantage might have arisen. I will state on personal and other authority, that there have been an immense number of herrings in Bradford's Cove, since the commencement of the spawning season this year; and that fishermen, driven from the Southern Head by the "Persian's" boats, or a wholesome fear of the law, having Bradford's Cove under their lee, may set law at defiance, and have still a prospect of a bountiful harvest in the herring line.

To corroborate the truth of my assertions, I may add that on the 22d of August, Mr. Alexander, Warden of Grand Manan, started in the second gig of the "Persian," and in rounding the Southern Head found no vessels there, (in fact they had been scared from it on the preceding nights,) but at Bradford's Cove, in spite of a heavy swell from the southward, several vessels were fishing; one, the property of Mr. Kay, of Deer Island, (an inveterate poacher,) against whom I have already lodged an information with Captain Robinson, for being anchored off the Southern Head with no good intents, and insolence to my boat's crew; and whom I trust your Excellency may visit with your displeasure. Five barrels of herrings, many among them spawning, were found in one boat alone; and other fishing boats engaged, were seen at the same time taking them in as fast as possible.

With regard to the eastern boundary of the spawning ground, I may also mention that the herring is said to spawn in what is called "Long Pond Beach," still further to the northeast than Red Point, (I would here call your Excellency's attention to the enclosed chart), the affixed spawning limit; moreover, between Red Point to the north point of Wood Island, there are actually *weirs laid down*, which must necessarily interrupt the course of myriads of fish, which, had they been allowed to pass the channel unmolested, would have deposited their spawn within the prescribed limits. Independent of this, these weirs offer a great obstruction to the free navigation of the channel between Red Point and Wood Island; and I would venture to suggest their entire removal.

For the protection of the spawning ground of Grand Manan, I consider a stationary force absolutely necessary, one which

might be independent of all other fishing stations; and if my humble recommendation be held valid, I should say an establishment much on the principle of our Coast Guard Service, would answer every purpose, without involving the Province in any very great expense; in fact, it might almost pay itself. In the summer, during the spawning season, it would be most efficient in guarding the whole ground of the Southern Head, and in winter, and occasionally in summer also, the boats might be rendered, in the hands of Providence, the means of saving many lives and much property, which, under the present system on this dangerous part of the coast, (it is to be feared,) too often finds its way to the bottom, or into the hands of mercenary and often lawless gangs of wreckers: a system not sufficiently to be condemned.

I would recommend a boat house, with boat and crew, (*not residents of Grand Manan*) stationed at Seal Cove, near the present residence of M'Laughlin, which commands a good view of the Gannet Rock Light House, from which signals of distress are always fired in cases of wreck or danger to vessels; and which is, in fact, in constant communication with the Light House, it being kept by M'Laughlin's son.

For a boat I should say those in use by the Deal men of the present day might be rendered available; they are easily hauled up, pull fast, and stand well under canvas, and are constantly known in England to carry out a large anchor and cable, in a strong gale and heavy sea, to a vessel in distress.

Two boats and crews (one being spare) would be sufficient for the spawning ground; and a small cutter or schooner, (say 30 tons) with an active commander, would find it easy work not only to guard the whole coast of the Island against the intrusion of foreigners, but in a case of emergency, such as in bad weather, to carry a boat from one point of the station to another.

Moreover, when the ground is once distinctly marked out, the vessel and boats might be mainly instrumental in checking the practice of indiscriminately throwing the gurry overboard, which is universally complained of.

According to Mr. Brown, (Warden of Charlotte County,) not only the Americans but our own people, are in the habit of throwing their gurry overboard in every harbour of Passamaquoddy, more especially Head Harbour.

At Grand Manan the same complaints have been made to me; many I have cautioned against it, but the question is immediately asked—"Where are we to throw it?" By referring to the Wardens, it appears that this point is not very accurately defined at present. The practice of throwing the gurry or offal indiscriminately is highly injurious, not only because it tends to scare certain kinds of fish—for instance, herrings—but that it renders the fish less dainty; and those which gorge it, such as codfish and haddock, totally unfit for the market; where it

is thrown overboard or deposited on the beach near herring weirs, not a fish is to be taken.

It is thus accounted for: the gurry becomes decomposed on the bottom where it has settled, and an oil is generated which seems to deter the herring from playing in shore; just as the bilge-water from the fishing boat is said by the fishermen (and I see no reason to dispute it) to scare the ravenous shark, whom they all hold in great dread.

Again, when the offal or gurry is left on the beach, the heat of the sun extracts the oil, and being blown off by a westerly or northwesterly wind to the fishing ground, tends to deter the herrings; however plentiful the hake be at the time, (I allude more especially to the ground between Swallow's Head and Long Island,) there will not be enough taken even for bait.

All this seems to advocate the necessity of some defined ground for "throwing the gurry" into the deep sea; that is, whatever is not necessary for manuring the land. And now, having partially touched on the more important points of improvement, judging by my own slight experience, aided by the sound opinions of men more practically interested in the way of catching fish, I would revert to another point of no less importance, that is the mode of turning the produce of the fisherman's industry to a good account in the market.

That much yet remains to be effected in the way of curing fish, is an indisputable fact evident to the most ordinary experience: on this head it is unnecessary for me to dwell otherwise than briefly.

The establishment of Societies among the different fishing districts, so warmly encouraged by your Excellency, and so zealously and ably put in motion by Members of the Provincial Assembly, for exciting a spirit of competition among the fishermen, towards bringing their produce to the highest state of saleable excellence, cannot fail to work out the most beneficial effects; the formation of two of these Societies under the able direction and untiring zeal of a brother officer, (Capt. Robinson,) at Campo Bello, and Mr. Alexander, at Grand Manan, I have had the satisfaction of witnessing in person, and with real pleasure have attended their meetings during the formation of the Society.

From what I have gathered, the main causes of the inferiority hitherto of the fish in the market were these:—First—That fishermen returning from their cruise are often too wearied and exhausted to pay sufficient attention to the thorough curing and putting up of their cargo, nor have they the means of deputing the task to others.

Secondly—The Grand Manan and Quoddy fish are said to be inferior in quality to those of Nova Scotia, for the reason that the Merchants of Eastport (to which market the former is chiefly sent for sale) seem to care but little whether it be well or ill cured.

Thirdly—The weekly labours of the fisherman usually closing on Friday or Saturday, he is contented with the operation of the knife only, throwing his fish on the beach where it is left until Saturday evening, when he takes it to the merchant who is willing to buy it in that state; now, it is said that the fish taken immediately from the knife cures well, but if kept any time its quality deteriorates considerably.

The best remedy against all these, must necessarily be that spirit of emulation which the prizes awarded by the Fishing Societies cannot fail to excite, as time will shew.

With regard to the intrusion of foreign vessels upon our fishing grounds, I have certainly heard complaints in Passamaquoddy Bay, more especially about Head Harbour, where they are more or less secured from notice, but none have come under my immediate notice.

In Grand Manan, since many of the leases of weirs are held by Americans, there must ever be a certain degree of clashing interests; the latter having so ready an excuse for proximity to our shores.

The fishermen from Lubec seem to give most cause for complaint among those of Grand Manan, while those from other places in Maine are well disposed and fraternize with our British subjects; on Saturday evening, a whole flotilla of American boats may be seen steering for Woodward's Cove, wherein to spend their Sabbath.

The latter (chiefly owing, I presume, to the bounty on tonnage, long obsolete in our Fisheries,) are larger and better found generally; so that it is hard for the British fisherman, with his more primitive gear, to compete with his opposite neighbours in the deep-sea fishing. The Nova Scotia and Saint John vessels come more or less under the same head, and are loudly complained of by the more humble fishermen on the Grand Manan, as marring the products of their industry. And lastly, to touch upon such points relative to the safe navigation, and the dangerous rocks and shoals on the eastern side of Grand Manan, which I have had an opportunity of visiting.

The Light House so judiciously placed on an isolated rock, (the Gannet,) a beacon for the most dangerous ledges, I could wish to bring under your Excellency's notice.

Within the last few years I am told, the stone wall four feet thick and eighteen in height, has been built round the Light House which is of wood, and it strikes me of somewhat fragile construction, considering that it is of *single shingle*, through which in many places daylight may be seen.

Had the wall been raised a few feet higher a great point had been gained, as well for the security of the Light House as for the comfort and convenience of the watchmen; as it is, that portion of the building assigned for their six months stock of water, oil, &c., is not enclosed by the stone wall; the consequence of this is, that during the rigours of the winter season, to prevent it being frozen, it is necessary to remove it to their

own apartments, where they are necessarily much lumbered up and pushed for room, which they can ill afford.

Complaints are also made of the bad quality of the oil supplied; whale oil is recommended for summer consumption, that of porpoise and seal, which is less liable to be frozen, for the winter; on this depends, of course, the regular working of the machinery.

With regard to the latter, the two separate machines are necessary in the event of accident to one; the one in common use is certainly somewhat worn, although still serviceable and tolerably regular in its movements; in summer there is less to affect this regularity than in winter, when the machinery is apt to get hard during the severe weather, and a greater weight is necessary.

In order to regulate the latter to the temperature, I would strongly advocate the same kind of weights as used for the safety valves of our steam engines; whereby, with little trouble, it may be increased or diminished in proportion to the wants of the machinery.

The planking round the foundation should be ripped up, and the foundation of the wall looked to; the Roman cement where-with it is secured to the solid rock is working out in more than one place; also that part of the building of residence attached to the Light House seems to require some protection on the southwest, where the rocks, either by their natural shape, or worn by the sea, offer little protection from the prevailing winds.

Should it ever be the intention of the Government to establish a general system of coast blockade for the protection of the fisheries of the Bay, or even to endeavour to effect the same purpose by means of a certain limited number of small vessels, (which I have heard is in contemplation,) it may be incumbent on me to offer some few remarks on the different harbours of refuge which the locality offers, which I have made a point of visiting.

Two Island Harbour, and also Three Island Harbour, are well adapted for boats or small vessels—the latter of the two is the best sheltered from the S. W., or the prevailing wind in the summer; both are secured from the wind on the opposite quarter, and both command a view of the Southern Head spawning ground, and are within an easy distance of the Gannet Rock, and the scene of so many wrecks, (the Murr Ledges.)

To the N. E. again, on the eastern side of Whitehead Island, is another beautiful little harbour for fishing boats, or even large vessels driven for shelter from the fury of a southwester; and here may be seen, when the weather is threatening in that quarter, a whole fleet of fishing boats riding securely at anchor; as many as one hundred and fifty vessels, according to the account of Mr. Wm. Frankland, who resides there, (the best pilot on the Island, and whose services I lately hired to carry me to the assistance of a schooner on the Murr Ledges,) have been at anchor together.

By an outlay of £150 upon a Breakwater, the pool or upper end of the cove, would be converted into a perfect minor harbour, where small vessels might ride secure from all winds.

The fishermen also of Gull Cove have petitioned me to move the higher powers of the Province to fix a bell worked by clock-work on *Gull Rock*, on the eastern side of the Island, as a guide in time of fog; they have all, moreover, expressed their willingness to defray the expenses of the bell by subscription.

There has been good line-fishing off the *Rips* S. E. of Whitehead Island this year, while further south the fishing boats have had to go a greater distance with indifferent success. Herrings, however, have been scarcer this year on the rippings than any preceding one; thirty six vessels out on the 27th and 28th ult. caught none, whereas in former years one hundred barrels would commonly fall to the share of each vessel; and yet, this year, the shrimp, the favourite prey of the herring, is said to be in great abundance.

I have merely alluded to the above facts, to prove that Whitehead Island is a profitable fishing station; and that, therefore, a little money spent in Gull Cove might not be thrown away.

On the western side of the Island there is but little shelter; Dark Harbour, with a small outlay, however, might be rendered a host in itself. Vessels of any size, might there find perfect shelter from any wind or sea, in from nine to twelve fathoms.

A natural breakwater, sloping on both sides, and rising about ten feet above high water mark, crosses a snug Bay three quarters of a mile in length, and half a mile across.

An entrance through the bank, or natural breakwater, has been already cleared out, of one hundred and fifty feet in width at high water, and about sixty at low; in depth, twelve feet in spring tides, and seven in ordinary ones.

By the temporary use of a Dredging Machine, (I believe there is one at Saint John), working during the fine season, the channel might be rapidly cleared, so that even Her Majesty's cruisers, or other vessels in distress, might find shelter in all weathers, and the former might serve to detect certain breaches of the law which are carried on in this vicinity with the main land, and of which I have had of late some practical experience; not only are stragglers or deserters here shipped off, (on which subject I have already addressed your Excellency,) but also much of the spirits, by which seamen are frequently stirred to desertion, is here landed in defiance of the laws, which, in fact, there are few there willing to enforce.

And now, having endeavoured briefly to lay before your Excellency such remarks as my duty enjoins, and which it is my sincere wish may meet your approbation, I will conclude by saying, that should it ever be my lot to see any of my suggestions brought into effect, I should have the inexpressible satisfaction of feeling that my limited time within your Excellency's command, has not been thrown away.

His Excellency Sir E. W. HEAD, Bart.,
Lieut. Gov. of the Province of New Brunswick. }

(No 23.)

FISHERY SOCIETIES.

At the Session of the Legislature in 1851, the following Appropriation was made :—

"To His Excellency the Lieutenant Governor or Administrator of the Government for the time being, the sum of five hundred pounds, for the encouragement of the Fisheries; the said money to be advanced in the same way, and in like proportions, as the money at present granted for the encouragement of Agricultural Societies."

In consequence of this appropriation, letters were addressed, by the Provincial Secretary, to the Clerks of the Peace in those Counties interested in the Fisheries, stating that His Excellency the Lieutenant Governor recommended the establishment of "Fishery Societies," upon a system similar to that on which Agricultural Societies have been formed—any such Fishery Society, upon subscription and payment by its members, of not less than twenty pounds, to be entitled to receive from the Provincial Treasury, a sum equal to three times the amount so raised, to be applied in the distribution of prizes, or in any other way, which, in the judgment of the Society, might best tend to promote the desired object.

In Charlotte County, three Societies were immediately formed; the first of these was at Grand Manan, the Constitution of which has been adopted by the Societies formed subsequently. This Constitution is as follows :—

CONSTITUTION.

Article 1.—The style of this Society shall be, the "Grand Manan Fishery Society," for the encouragement of the Fisheries; and its object shall be, to improve the condition of this important branch of our industry, by such practical and effective means as may be suggested, and approved, at any regular meeting of the Society, or by any Committee, whose acts may be approved and adopted.

2.—The Society shall consist of such inhabitants of this Parish as may signify their wish, in writing, to become members, and who shall pay, on subscribing, not less than one dollar; and honorary and corresponding members may be admitted by vote of the Society without payment; provided always, that Presidents of other "Fishery Societies," or delegations from the same shall, *ex officio*, be members of this Society without payment; and provided also, that the payment of five pounds, or more, shall constitute a member for life, and exempt the donor from annual contributions.

3.—The officers of this Society shall consist of one President, one Vice President, a Recording Secretary, a Corresponding Secretary, and a Treasurer, with twelve Directors, five of whom shall constitute a quorum.

4.—The general duties of the officers of this Society shall be as follows :—

The President, (or in his absence, the Vice President,) shall preside at the regular meetings of the Society, preserve strict order, and put to vote all questions submitted, which shall be determined by the majority then present. He is also expected to take a prominent part in originating, and bringing before the Society, such measures as may appear to him calculated to promote its interests, and shall do and perform such other acts, as may be required of him, by this Constitution, or by vote of the Society.

The Recording Secretary shall keep the minutes of the Society, in a book to be procured for the purpose.

The Corresponding Secretary shall carry on a correspondence with other Societies, and with individuals, in furtherance of the objects of the Society.

The Treasurer shall collect and receive the funds of the Society, and keep them in such manner as the Society may determine; and shall only disburse them on order of the President, countersigned by the Recording Secretary; and shall make a report of the receipts and expenditures, at the annual meeting in November, in each year. The Officers of this Society shall take care of, and distribute, or preserve, all articles which may be transmitted to the Society, and shall also have the charge of all communications designed or calculated for publication; and so far as they may deem expedient, shall collect, arrange, and publish the same, in such manner and form as they shall consider best calculated to promote the objects of the Society; and shall cause an annual report of the doings of the Society to be published.

5.—A special Committee, or Committees, for any purposes connected with the interests of the Society, may be appointed at any regular meeting by the resolution of the majority then present.

6.—There shall be two regular meetings of the society, within the Parish, at any place that may be determined upon by the President, in each year, namely—on the first Tuesday in November, and the first Tuesday in May; all the officers of the Society shall be elected by a plurality of votes at the annual meeting in each year, and at least eight days notice be given of each meeting, to be posted up in the most conspicuous places in the Parish.

7.—The President may at any time call a meeting of the Officers and Committee of the Society, for the transaction of business connected with the Society, five of whom shall constitute a quorum—due notice of which meeting shall be given to each individual composing said Committee.

8.—This Society shall hold an annual show, or fair, at such central point in the Parish, as may be determined by the Officers and Directors, and prizes in money, or a medal, (at the option of the person to whom such prizes may be awarded,) shall be given to the successful competitors in fish—the varieties of fish, and quantities, on which prizes are to be awarded, as also the amount of prizes, to be determined by the Officers and Directors of the Society; and the annual shows, or fairs, shall be held on the first Tuesday of November, in each year, and notice of the kinds and quantities of fish to compete for the prizes to be awarded, shall be given, at least, thirty days before the exhibition.

9.—None but members of this Society shall be competitors for the prizes, and prior to the annual show, or fair, the Officers and Directors of the Society shall appoint unbiassed umpires, who shall give their decisions as to the quality of the fish competing for the prizes, and whose decisions shall be final and conclusive.

10.—It shall be in the power of this Society to award to any office-bearer, or office-bearer, for services actually performed, such remuneration as may appear necessary, reasonable, and just.

11.—The annual income of the Society, together with any grant made by the Government of this Province, shall be appropriated and applied to premiums, upon fish, the catch and cure of any member of the Society, under such rules and regulations as the Officers and Directors may declare.

12.—Any member of this Society producing fish for competition at the annual show, or fair, for premium, not actually belonging to and cured by himself, or by some member of the Society, shall be considered guilty of an attempt to defeat the object of the Society, and shall be disqualified from being a member thereof.

13.—Upon application to the Secretary, any member can have access to the rules and regulations.

14.—This Constitution shall be construed liberally in favour of carrying out the avowed objects of this Society, and may be amended by a vote of two-thirds of the members, attending any annual meeting in November in each year; provided that notice be given in writing at the previous half-yearly meeting, specifying the intended amendment.

After the adoption of this Constitution, John Dogget was elected President; Lorenzo Drake, Vice President; John Alexander, Corresponding and Recording Secretary, with Philip Newton, Treasurer, and a Board of twelve Directors. Some very spirited



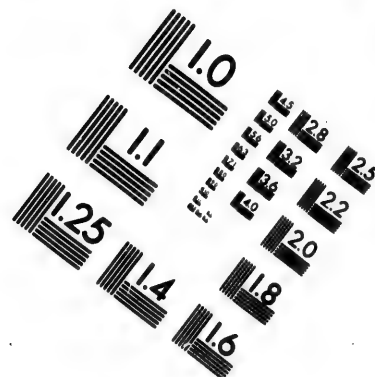
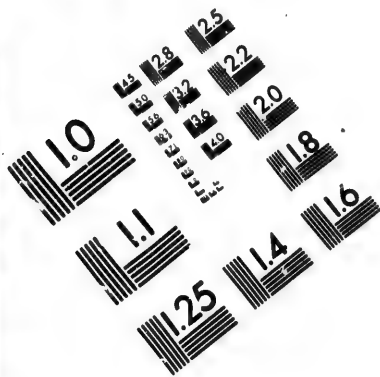
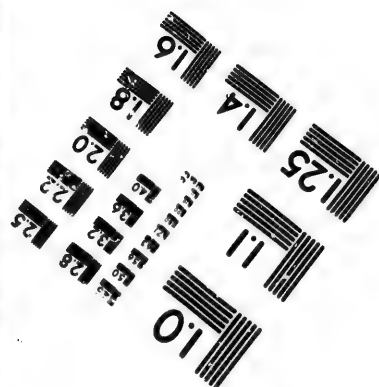
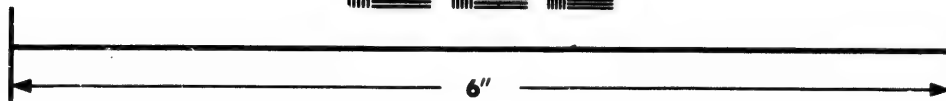
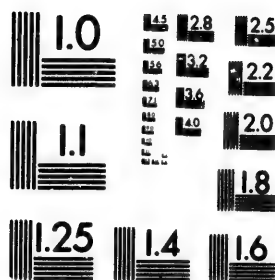


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resolutions were passed, expressive of the benefits expected to flow from the formation of the Society, and the combined efforts of fishermen generally,—the whole concluding with a vote of thanks to Sir Edmund Head, for the interest he has taken, and continues to take, in the Fisheries.

The Grand Manan Society has subscribed, and paid in to their Treasurer, the sum of twenty six pounds; their first show of fish took place on the 4th day of November, 1851, agreeably to the Constitution.

At the meeting held at Campo Bello, for the formation of a Fishery Society there, Capt. J. J. Robinson, R. N., M. P. P., spoke at some length.

The gallant captain said, that the formation of Fishing Societies was the commencement of a new era for fishermen, as by such combinations, they would acquire a position that would not only benefit themselves, but also benefit the general trade of the country. He alluded to the value of the exports of fish from Nova Scotia last season, more especially from Halifax; to the impetus which had been given to agriculture, by the formation of Agricultural Societies in every district, to the money that had been spent for procuring agricultural information, and for Professor Johnston's survey and report,—and said, that the like expenditures would be made for the promotion of the fisheries, if the fishermen united and made common cause. "We have already many friends," said Captain Robinson, "and shall get many more. Last year, Sir Edmund Head sent Mr. Perley down to inspect our fisheries, (and considering the limited time he had to do it in, his report is an able one, in my opinion, and our Wardens state to me, that wherever they have been, it is correct,) and I would mention here, that no one in the Province has the welfare of the fisheries more at heart than our respected Governor. I am persuaded, that he at least will give us all the assistance in his power; he has repeatedly written to me, expressing his lively interest in the subject, and approving of such proceedings as those we are now met for." It was then explained to the meeting, that if they subscribed £20, they would be entitled to draw three times that amount from the Provincial Treasury; and that the money would be entirely under the control of the Society itself, to be expended in objects connected with the advancement of the fisheries.

Capt. Kynaston, of H. M. S. Persian, also attended the meeting, and made a very neat speech, expressing his readiness to aid, in any way, the protection of the fisheries, or their advancement, and concluded by subscribing one day's pay toward the funds of the new Society, to which he wished every success.

The sum of twenty five pounds was subscribed, and paid in by the "Campo Bello Fishing Society," and the first show of fish was advertised as follows:—

CAMPO BELLO FISHING SOCIETY'S FIRST SHOW OF FISH.

The first Annual Show of the Campo Bello Fishing Society, will be held at the Government Stores in Welshpool, in the Parish of Campo Bello, on Tuesday the 18th day of November, at 10 o'clock, A. M., when the following Premiums

will be awarded upon the Fish exhibited, subject to the Regulations hereinafter mentioned:

Cod Fish.

1st premium £2 10s., 2d premium £2 5s., and 3d premium £2, for the 1st, 2d and 3d best quintal taken during the present season.

5 quintals to be cured, 1 quintal to be shown.

Dry Pollack.

1st premium £2 5s., 2d premium £2, 3d premium £1 15s., for the 1st, 2d and 3d best quintal taken during the present season.

5 quintals to be cured, 1 quintal to be shown.

Hake.

1st premium £1 5s., 2d premium £1 2 6, 3d premium £1, for the 1st, 2d and 3d best quintal taken during the present season.

5 quintals to be taken, 1 quintal to be shown.

Haddock.

1st premium £1 5s., 2d premium £1 2 6, 3d premium £1, for the 1st, 2d and 3d best quintal taken during the present season.

5 quintals to be taken, 1 quintal to be shown.

Mackerel.

1st premium £1 10s., 2d premium £1 5s., 3d premium £1, for the 1st, 2d and 3d best barrel taken during the present season.

5 barrels to be taken, 1 barrel to be shown.

Pickled Herring.

1st premium £2 10s., 2d premium £2 5s., 3d premium £2, for the 1st, 2d and 3d best barrel taken during the present season.

5 barrels to be taken, 1 barrel to be shown.

Quoddy River Herring.

1st premium £2 10s., 2d premium £2 5s., 3d premium £2, for the 1st, 2d and 3d best barrel taken during the present season.

5 barrels to be taken, 1 barrel to be shown.

Smoked Herring.

1st premium £2 12 6, 2d premium £2 5s., for the 1st and 2d best smoked Herring taken during the present season.

100 boxes to be taken, 10 boxes to be shown.

Smoked Haddock.

1st premium 17s. 6d., 2d premium 15s., for the 1st and 2d best smoked Haddock cured during the present season.

50lbs. to be shown.

Yarmouth Bloaters.

Premium 15s. for the two best boxes, to become the property of the Society and be disposed of as the Judges may direct.

REGULATIONS.

1st. In all cases with parties showing Fish, a certificate from two members of the Society, as to the actual quantity caught, will be necessary.

2nd. All Fish for competition must be delivered at Welshpool, to D. Bennett, Esq., Secretary, (who will give a certificate for the same,) not less than one day previous to the exhibition.

James Brown, Esq., J. P., and Mr. Joseph Patch, (who will choose an umpire,) will act as Judges upon the occasion.

By order of the Board.

D. BENNETT, Secretary.

Campanella, 15th Oct., 1851.

At a meeting held on the 20th September 1851, at Chocolate Cove, in Deer Island, a Society was formed there, under the name of "The West Isles Fishery Society," which has since subscribed, and paid in to the Treasurer, the sum of forty four pounds.

(No. 24.)

THE CURE OF FISH.

The following admirable directions for taking and curing Herrings, and other fishes, published by the Board of British Fisheries, were reprinted in this Province by order of His Excellency the Lieutenant Governor of New Brunswick, for general circulation, because the instruction and information they convey, are calculated to be most useful to the fishermen, and fish-curers, of New Brunswick. It need not be pointed out, that some of the details, may be inapplicable to the Fisheries on the Coasts of North America, having been framed with reference to official arrangements in Scotland; but apart from this, the directions will be found exceedingly valuable:—

DIRECTIONS FOR TAKING AND CURING HERRINGS.

Printed and circulated by the Hon. the Commissioners of the Board of Fisheries.

Fresh Herrings, when in prime condition, form a cheap, delicate, and nutritious article of food, and when promptly and efficiently cured, they become valuable as provision. But their value in these respects must necessarily depend entirely on the condition of the fish when caught, and on the degree of promptitude and care which may be exercised in curing them.

Herrings, in regard to their condition, may be divided into three classes, viz: Maties—Full Fish—and Spent or Shotten Fish. Maties are those fish in which the roes and milts are perfectly but not largely developed—and it is well to understand, that this is the state of the fish in which it is truly in the best condition for food—and when it will be found most delicious to eat, as well as most nutritive. Although it does not exhibit, whilst in this condition, so bulky an appearance as it does when it is in that of a full fish, it is in reality much fatter, for the bulk of the full fish is deceptively produced by the great enlargement of the roe or milt, and this does not take place without a corresponding diminution of the body of the fish. The full fish, however, are those which are most sought after in a mercantile point of view, because of their larger appearance. The spent or shotten fish having just performed their function of spawning, and having been thereby reduced to a miserable, lean, and poor state, are unpalatable, and more or less unwholesome as food when in a fresh state, and in a still greater degree when cured. The more immediately they are taken after spawning the worse they will be, and the longer the time that expires after their performance of that function, the less unpalatable or unwholesome they will become. But it is always advisable to avoid taking or using them in any way, until they shall have had time to be fully recruited, after their thorough exhaustion from spawning.

The different classes of persons directly employed in the trade which produces the article of commerce, called salted or pickled herrings, are fishermen, fish-curers, gutters, packers, and coopers, and if the portion of work which more immediately belongs to each of these classes be in any instance improperly performed, the whole value of the article may be so impaired as to be rendered altogether

unmarketable. Each class, therefore, should perform its duties carefully and expertly, so that by the care and attention exercised by all of them towards one object, their united exertions may bring the manufactured fish to the highest degree of perfection of which it is capable. If the fishermen are so careless in handling the fish as to injure them in any way, the mischief cannot be repaired by curers—and if curers fail in their part, the exertions of gutters and packers will avail nothing in making amends for their neglect; and although all these may have done their parts well, if coopers be inattentive to their particular duty, the fish, however well cured, may be destroyed. Hence it is necessary to have the most vigilant superintendence over all these departments, which, if properly exercised, will not much increase the expense of production, whilst it will insure well-cured herrings, and a ready market, and likewise raise the character of our British fisheries still higher in foreign countries.

FISHERMEN.

It is advisable, in the first place, to consider those things that require to be attended to in the capture of the fish. The Dutch mode of taking them, by employing vessels of from 60 to 90 tons, has many advantages over that of our British fishermen, who use boats only, and especially that of enabling the crews to cure their herrings immediately on board, and almost before they are well dead. This may be considered as one great cause of the superior flavour of Dutch-cured fish, as the fish must suffer to a certain extent every moment they remain without having salt applied to them. In one point, however, our boats have an advantage over the Dutch vessels, that much finer netting can be used in them, the weight of the Dutch vessels requiring stronger nets, made of heavier twine, which is not likely to be so successful in taking fish as nets made of twine of a finer description. Any general introduction of the use of such vessels as are used by the Dutch, however, cannot perhaps be looked for; but it may be pointed out as a thing most desirable, that the boats employed by our fishermen should be as large as possible, to be convenient for rowing in calms. Were well-built, well-rigged, and well-found boats of from 15 to 18 tons more common amongst our fishermen than they are, and were these always manned by at least six men and a boy, we should hear of fewer lives being lost—and much more might be achieved by hardihood in contending with heavy seas and gales of wind, and thus much more fish might be captured. But this is not all—for although the fish when caught could not perhaps be cured directly on board of such boats, as they are with so much advantage in the Dutch vessels, they could, at least, be much better preserved until landed, than they possibly can be in smaller boats. The boat ought to be put into perfect order, and properly tarred, and the tar well hardened before the fishing season commences, for if the tar happens to have been too recently applied, those fish which accidentally touch the skin of the boat, will be contaminated with a taste of tar, and as early caught fish are often slightly salted and hurried to market, to obtain high prices as an immediate delicacy, if the flavour or even the smell of tar is perceptible in the pickle or fish of a single barrel,

the character of the whole parcel may be injured. It is most essential that all boats should be furnished with pumps, the occasional working of which, if necessary, will keep the boat dry, for nothing is found to be more prejudicial to the fish than their being permitted to wash backwards and forwards in a bath of sea-water, filling the bottom of the boat, by which they have their scales rubbed off by friction against each other, and they are macerated in such a manner as to lose the greater and richer part of their natural juices, and to become flabby, unsightly and tasteless; and if, in addition to the pump, the boat were floored with deal boards, perforated with holes large enough to allow any water that might be shipped to find its way downwards, it would not only ~~and~~ greatly to the comfort of the crew, but it would tend to keep the fish in much better state till they should be landed. Bottom, or limber boards, foot spars, and walking planks, may be considered as essentials for the preservation of the fish. Whenever the fish are landed, the limber boards should be removed, and the whole interior of the boat should be properly washed and scrubbed. This should be done daily during the fishing season, and thus the glut is much more easily removed, and the boat is rendered clean, and freed from all taint or smell, before proceeding to sea on each successive voyage. Each boat should be provided with a comfortable place forward, for the crew retiring occasionally to sleep or to shelter in, covered with a half deck, and every man should have a comfortable oil-skin canvas coat and trowsers, and boots; and if each were to be provided with the patent Edinburgh Safety Cape, invented by Mr. Simpson, or such safety jackets as are now furnished to the Coast Guard, many lives would be saved, which would otherwise be lost. As every large boat may have a fire on board, coffee in any quantity could be heated for the crew, and this would be found on trial to be a much more comfortable and nourishing drink for them, and much more enduring in its effects than any spirituous liquor, and free from all after bad consequences.

Where large fleets of fishing boats are assembled, it is a common practice for the whole fleet to follow the course pursued by the first boat that puts to sea, and to run for the same fishing ground. This may be a wise mode of procedure where the certainty of finding a body of fish in that particular quarter may have been already ascertained, but when this happens not to have been the case, it would be much more advisable for the boats to go in separate courses, so as to increase the chance of some of them falling in with the body of fish; and when that has been discovered, the other boats of the fleet might afterwards join them, and thus all might fish successfully; whereas by the present practice, if the fish are not encountered by the first boat, the whole fleet are likely to be equally disappointed. Under any circumstances, the boats should not crowd too much together, but leave sufficient intervals of room between each other, so that the trains of net may be shot without any risk of one train interfering with, or getting entangled with another. A good and efficient net ought to be 50 yards long on the back rope, by 14 yards deep; and a good and proper train should contain 26 of these nets, hanging in suc-

cession from the back rope, thus containing altogether 18,200 square yards, stretching over a line of sea of 1300 yards in length. The swing or net rope should be about 120 yards long, so that the whole length of nets and line may stretch along 1420 yards of sea, or about four-fifths of a mile. These nets should be properly tanned; and if done with the drug called *catechu*, or *terra japonica*, it will be found much better than oak-bark; but care must be taken when using it, not to overdo the process, otherwise the meshes may become contracted, and too much hardened. Sir William Burnet's patent likewise has been found extremely good for the preservation of nets. And further, while on the subject of nets, it may be well that fishermen should know that Messrs. Jamieson, of Kilbirnie, and Mr. Paterson, at Musselburgh, have manufactured a particular description of small twine for nets, which, whilst it is equally strong with the common net, is much less easily seen by the fish in the water, and has consequently been found by experiments made by orders of the Board, to be much more successful than the ordinary nets.

The train of nets having been carefully and regularly coiled up in the boat, should, on arriving at the fishing ground, be gradually shot out with equal care and attention, and then the boat lies with the train attached to it. After the train shall have remained in the water for such a length of time as may appear necessary for allowing the herrings to mesh, during which time the nets must have been occasionally pulled up a little and examined, so that when no likelihood of herrings may appear, the nets may be hauled, the ground shifted, and the nets shot elsewhere; and when it is found that the herrings have meshed, the train must be carefully and not too rapidly hauled up. And now comes a part of the fishing process which demands the most serious attention from the fishermen, as the future value of the fish may be immensely deteriorated if this part of these instructions be neglected. The whole of the fish should be carefully shaken out from each successive part of the net as it is taken into the boat. If this is not done, the herrings are liable to be much jerked about with every pull the net receives whilst in the boat, and so they are stripped of their scales, are bruised, torn, and broken, and become soft, and more or less tainted, and consequently they are thus, even before cure, rendered to a great extent unmarketable; whilst herrings immediately shaken from the nets in the manner here enjoined, being alive at the time, fall easily from the meshes into the bottom of the boat, where they remain in a beautiful state, with every scale adhering to them, and continue firm and uninjured until the boat reaches the beach, where they are immediately and promptly delivered. To secure attention to this most important matter, fish-curers, in contracting with fishermen, should make an arrangement that all herrings brought to the shore in the nets should be paid for at a reduced price; and no indulgence should be allowed as to this rule, unless in cases where stormy weather may have rendered it impossible for the fishermen to shake the herrings out of the nets whilst hauling. It becomes the more essential to impress all this the more strongly both on fishermen and curers,

that the plan of shaking out the herrings from the nets as they are hauled is but too seldom followed, and this in defiance of all the means which the Board of Fisheries has taken to get the proper practice pursued, its Commissioners having, so far back as the 22d June 1816, issued, through its secretary, an order to its officers to do all in their power to promote the adoption of this most important practice; but notwithstanding all the exertions of the officers, it is still very universally neglected. It is earnestly hoped, however, that the fish-curers, to whom a mode of correcting the evil has been pointed out as existing in their own hands, will now seriously bestir themselves to put an end to the practice of allowing the herrings to be brought ashore in the nets, which so much destroys them even before a single step is taken in the process of cure. Another precaution would be highly valuable if it could be adopted. If a piece of an old sail were fitted so as to cover the space from the mainmast of the boat to the pumps, the moment after the herrings were shaken into it from the nets, and made fast over each gunnel, so as not to interfere with the management of the boat either in sailing or rowing, the fish would be kept from all risk of suffering from the sun, and if a boat-hook or boom were placed fore and aft under it, they would be protected both from rain and sea water until ready for delivery. These precautions would not only preserve the fish in prime condition till the curing process should commence, but the boat's crew would find their account in attending to them, from the great saving of time and labour which would thus be secured to them on their landing. Thus a crew which might reach the shore at six o'clock, A. M., with a large take of herrings, having their nets all shaken, and the fish ready for immediate removal, might land, spread their nets, or hang them on the drying poles, and, in ordinary circumstances, they might have their fish delivered by ten o'clock, get themselves washed, and take their victuals, and then go to bed and sleep comfortably four or five hours, after which they would have ample time to mend their nets, and to carry them down to the boat, so as to be ready to proceed to the fishery, full of that strength, vigour, and energy necessary to prosecute it successfully; whilst other fishermen, on the contrary, who have had similar success, but who may have hauled their nets without shaking the fish out of them, have all this to do after reaching the harbour, and that with much difficulty, for it is often found to be so impossible to draw the nets from under the fish, that those on the top require to be shovelled to another part of the boat, or landed, before all the nets can be got out, the effects of all which on fish caught during the hotter months may be easily imagined. But as regards the fishermen themselves, from all these difficulties, the day is far spent before the fish are delivered, and the nets all spread out or hung up, so that before they have reached home, washed and had food, there is no time left for sleep, or for mending their nets, and the preparation for the ensuing night's fishery is begun without besitting energy. Such crews, too, often arrive so late at the fishing ground from these causes, that they cannot easily find a clear berth to shoot their nets in; and when they do obtain it, no sooner are

the nets fairly out of the boat than the men are asleep, or at all events they are so fatigued from want of rest, that they have not courage to haul their nets, so as to change their ground if necessary, and to take a second shot, and therefore, they thus too often return disappointed.

When the herrings are landed from the boat, they ought to be measured by the legal cran measure, and not counted, unless the quantity taken be so small as not to fill a cran measure. As it is for the interest of both fishermen and fish-curers that the Cran measure should be used, as it affords the truest and justest mode of dealing both for buyer and seller, every one should unite in putting an end to the practice of reckoning the fish by numbers, as the law is, that nothing is to be used but the cran measure, having the brand of the Board of Fisheries on it.

FISH-CURERS.

If Fish-Curers have the desire they ought to have, to compel the men who fish for them to handle the herrings with proper care from the time of their capture to that of their delivery, they should certainly do their best to set them a good example, by seeing that every thing is done in their own department strictly as it should be. If they leave their herrings after delivery in the curing boxes, exposed to the sun or rain, it is not very likely that they will have much influence in persuading the fishermen to shake the herrings out of their nets as they are hauling them, or to take any other necessary precaution for their preservation, seeing that all such care would be thrown away if the fish-curer should thus neglect the herrings after he has received them. It is the fish-curer's business, therefore, to see that the receiving boxes and tubs have proper awnings over them, and likewise that the barrels, when packed, are properly covered and protected from the sun and rain; and much of the good or bad character of British cured herrings will depend on the attention which may be paid by curers to these injunctions, for the neglect of them may, and probably will give an incurable taint to the fish. The sooner salt is applied to the herrings the better, as it secures the adhesion of the scales, so important to the after appearance of the fish. For this purpose, salt should be sprinkled over them as they are emptied in successive portions from the Cran measure into the receiving or gutting-box. All herrings should be gutted, cured and packed, on the day they are caught. If this cannot be accomplished, they ought not to be cured as gutted herrings. They may, however, be cured as ungutted herrings, or made into red herrings.

GUTTERS.

Gutting, and packing also, should commence immediately after the first cran is delivered; but this practice is too much neglected, particularly on days when the fishing has been partial, or when the state of the tide may have occasioned an irregular delivery. Although a number of gutters are in attendance, they do not begin until such a quantity of fish is delivered as will give constant employment to all. Thus unnecessary delay, exposure, and deterioration of the fish take place; all which might be obviated on such

days, and the parties satisfied, by dividing the payment, for the whole number of barrels gutted and packed, equally among all. A most important matter is, to see that the herrings are properly picked and assorted into maties, full-fish, and spent-fish; and this should be done as the gutting goes on, by having baskets or tubs for each particular sort; and to prevent all after mistake, the barrels into which these several sorts of fish are separately packed, should be immediately, and severally, marked by means of a marking iron, with the respective letters, M—, F—, or S—.

Great care should be taken by gutters and packers to remove all fish which have lost their heads, or which have been broken, bruised, or torn in the bellies, so that they may be packed separately.

Bad gutting, and tearing the bellies of the fish, often arises from the knives being blunt. To prevent this, the gutting knives should be collected, and delivered to one of the coopers every evening, who should have the particular duty of seeing them all carefully sharpened on a smooth stone, and returned to the gutters in the morning. Due attention to this will be likely to produce neater gutting; the bones will be cut and not left exposed; and the fish will not present that ragged appearance which so often disfigures them. Whether the fish are gutted for continental sale or for exportation out of Europe, the orifice left at the top of the belly of the fish should be as small as possible, and particular attention should be paid that the breast be not lacerated or torn down, so as to leave the bones exposed. The incision with the knife should be made in the throat quite down to the back bone, and the knife turned round with the hand, and drawn upwards under the breast fins, and not downwards along the belly of the fish, otherwise the orifice will be made too large, and the roe or milt will be exposed.

The fish must be cleared, not only of the gut, but of the liver, stomach, and gills; which last, being full of blood, is known to taint the fish in a short time after it is killed; and the incision of the knife should be made down to the back bone, so as to allow the blood to flow freely from the great blood-vessel of the fish, which will tend much to the after preservation of the herring.

In order to understand the Dutch manner of gutting herrings, we must suppose that the fish is held in the hollow of the left hand, with its belly uppermost, and the head and shoulders projecting about an inch before the fore-finger and thumb; that the gutting-knife is held in the right hand, with the fore-finger and thumb grasping the blade to within an inch or so of the point; let the knife then be plunged into the throat of the fish at the side next the right hand, and thrust down so as to touch the back-bone, and so forced through to the other side, with the point a little projecting therefrom, and let the fore-finger then be turned over the head of the fish, and placed under the point of the knife, and the flat part of the thumb laid on the breast-fins or grip of the fish, and pressed on the broad part of the knife; the entrails are then to be gently started, the gut and gib seized between the knuckles of the fore and middle-fingers, and a sudden pull given, by which means the crown-gut, anatomically called the pyloric appendages, will be left

hanging from the body of the fish, while the gills, fore-fins, heart, liver, &c., will fall into the hollow of the hand. This is what is understood to be the mode of gutting practised by the Dutch, in which it is necessary to observe, that only one pull is required to bring away every thing that they consider to be necessary, when the operation has been performed in a proper manner. In the British method, the only difference is, that a second, and sometimes even a third and fourth pull are necessary, because the whole of the intestines, including the crown-gut are extracted. It will thus be found, that the breast or belly of the fish is most frequently lacerated in the act of removing those parts of the entrails, owing to the gutters making the pull downwards towards the tail of the fish, instead of making it upwards towards the head. Curers should therefore give the most particular instructions to their gutters to make the pull upwards and not downwards, so as to leave the orifice as small as possible, and to prevent the breast of the fish from being torn. That mode of gutting by which the crown-gut is left attached, is peculiarly well adapted for the continental market, where it is believed that the crown-gut has a powerful influence in improving the flavour of the fish, and where the appearance of the herring is held to be greatly injured when it has been by chance removed.

PACKERS.

The packing of the fish should be proceeded with as expeditiously as the gutting, and in fact, both operations should be carried on at the same time, the usual proportion of persons employed being two in gutting to one in packing. The moment the first herrings are gutted, the curing process should begin. The proportion of salt to be used must vary according to the season of the year and the nature of the fish, as well as the market for which it may be destined. The Dutch use one barrel of small Spanish or Portuguese salt for sprinkling eleven barrels of herrings, in order that they may be more conveniently handled, and one barrel of great salt for packing seven and a half or eight barrels of herrings for the European market; and if this quantity should be found rather small, an additional plateful of salt is introduced into the middle of the cask to supply the deficiency. The calculation for each barrel of herrings may be about five-sixteenths of a barrel of coarse Spanish salt. It must be observed, however, that whilst the Dutch mode of cure may produce a perishable article of luxury for the table, it is not capable of producing that imperishable article of commerce required by British and continental merchants. But the parties employed in the cure must be the best judges of the quantity of salt to be used for the different markets for which the herrings may be intended. It is, moreover, difficult to lay down any well defined rule as to this point, from the circumstance, that there are several qualities and sizes of Liverpool fishing salt, which are of different degrees of strength. Many curers use only one kind, whilst others use a mixture, and very frequently both Lisbon and Liverpool salt are jointly used for curing the herrings of the same barrel. Thus the quantity of salt required for fish free from glut, and early salted under cover, would be quite insufficient for fish mixed with glut,

and delivered in the afternoon of a sultry or wet day. It must be remembered, however, that the use of Spanish or Portuguese salt would produce a much better cured article than is produced by Liverpool salt. The herrings are then carried to the rousing-tubs, where they receive the first part of the cure, called rousing or roiling—that is, working them well to and fro among salt. In performing this operation, the packers should mix a proper quantity of salt among the fish as they are emptied into the rousing-tubs, and the herrings should be turned over continually, until a proper proportion shall have adhered to each. When this has been done, a small quantity of salt should be scattered in the bottom of each barrel, and the packer should begin by laying the herrings into the barrel in regular tiers, each tier being composed of rows laid across the barrel, taking care to keep the heads of the herrings at each end of the row, close to the inside of the staves of the barrel, with their tails inward, and making up the deficiency in the middle of each row by laying herrings in the same line. Care should be taken to scatter salt on the heads. The head herrings should then be placed. These are laid across the heads of the herrings already forming the tier, and these herrings should also receive a sprinkling of salt, which should likewise be thrown into the centre of the tier. The second tier must be packed in the same way, taking care that the herrings shall be placed directly across those of the first, and so on alternately, the herrings of each successive tier crossing those of that below it. A proportion of salt should be distributed over each tier, St. Ube's or Lisbon salt being always preferred for this purpose. When the barrel is completed, a little additional salt should be put on the top tier. Herrings intended for the Continent should be packed on their backs; but for the Irish market they are preferred when packed flat, or more on their sides. The fish in each barrel should be all of the same kind and quality throughout. The nefarious practice of packing inferior herrings in the middle of the barrel, or superior herrings at the top is always discovered, sooner or later, to the confusion and loss of character of the curer. The barrels should be filled above the chime of the cask, in which state they are allowed to stand till the following day, or even longer, when by the pining or shrinking of the herrings from the effects of salt, they fall down so much in the barrel, that it requires to be filled up. The moment the barrels are packed, they should be properly covered over, to prevent the sun's rays or rain penetrating the fish. All vessels which go to cure on open beaches or shores should be provided with old sails, or some other such covering, to protect the fish from the sun and rain; for if spread on the beach without any such protection, they will infallibly be spoiled.

COOPERS.

It is the duty of the cooper to see that all his barrels are properly made, and of the legal size. It is of the greatest importance that he should ascertain whether they are sufficiently tight for containing the original pickle, because there is no after remedy for the evil effects produced in the fish by its escape. Barrels should be constructed of well-seasoned wood, and be made tight in the bot-

toms and seams, and croze, by introducing the broad-leaved water plant called the sedge or flag, which would tend to secure the original pickle under all circumstances. During the period of the curing, the cooper's first employment in the morning should be to examine every barrel packed on the previous day, in order to discover if any of them have lost the pickle, so that he may have all such barrels immediately repacked, salted, and pickled. A very common practice is to pour pickle repeatedly into barrels of the previous day's packing, which have thus run dry, without having in the first place, secured the leak; and then afterwards to use the herrings of such dried barrels for filling up such barrels of herrings as are well cured and tight. This is a practice which should never be allowed, as the distribution of these dry, and consequently bad herrings, amongst the herrings of a number of otherwise well cured barrels, has a tendency to destroy the whole.

As already stated, the cooper in charge should see that the gutters are furnished every morning with sharp knives. He should be careful to strew salt among the herrings as they are turned into the gutting boxes—give a general but strict attention to the gutters, in order to insure that they do their work properly—see that the herrings are properly sorted, and that all the broken and injured fish are removed—take care that the fish are sufficiently and effectually roused. Then he should see that every barrel is seasoned with water, and the hoops properly driven before they are given to the packers. He should likewise keep his eyes over the packers, to see that the tiers of herrings are regularly laid and salted, and that a cover is placed on every barrel immediately after it has been completely packed. The cooper should write with red keel or black coal the name of the packer on the bottom or quarter of each barrel as it is delivered, together with the date of packing, and the letter M, or F, or S, for mixed, full, or spent fish, as the case may be. Where this excellent regulation is practised, it is found to be a check to bad or imperfect selection, as well as to bad gutting and irregular salting; and it prevents the different descriptions of herrings from being packed up together, when the barrels are unheaded in order to be filled up, or for being bung packed.

After the herrings have been allowed one, two, or at most, three days to pine, the barrels should be filled up with herrings of the same date as to capture and cure, and of the same description as those which they contain, care being taken not to pour off much pickle, or unduly to press the fish. The barrels should then be headed up and tightened in the hoops, and laid on their sides, and this always under cover, so as to be shaded from the sun's rays, which are seriously injurious to the fish; and they should be rolled half over every second or third day, until they are bung packed, which part of the process of cure should be performed within fifteen days from the date of the capture of the herrings; and not sooner than that period, if it be the object of the curer to obtain the official brand of the Board of British Fisheries at bung packing. When the pickle has been sufficiently poured off, a handful of salt, if required, should be thrown around the insides of the bar-

rels, and the herrings should be pressed close to the insides of the casks, and additional fish of the same description and date of cure should be packed in until the barrel is properly filled; after which it should be flagged, headed, blown, and tightened; and the curing marks should be scratched on the side. The barrel may then have its pickle poured in, and be finally bunged up.

REPACKING HERRINGS.

For the purpose of preserving the fish in warm climates, and in order to enable them to be exported out of Europe, all herrings must be repacked; and before the repacking commences, fifteen days must have intervened from the date of their capture and first salting. For this purpose the herrings must be emptied out of each barrel in which they were originally packed, into a large tub or box, filled with clean fresh water, where they are washed and freed from all glut; after which they are placed in open baskets, to allow the water to escape, and then weighed, when 224 lbs. of fish are allowed to each packer for every barrel. The fish are then regularly repacked into the same barrels, and Liverpool great salt is strewed on each tier as packed, until the barrel is full; the fish are then dunted, that is, the head is jumped upon by the packer, and when the quantity of fish weighed does not fill the barrel more is added. The barrel is then headed, flagged, and tightened; the quarter of the head end of the barrel hooped up, and an iron binding hoop, one inch in breadth, driven on each end; the chime hoops are then nailed, which completes the process of full-binding. The barrels are then placed in tiers—each bored in the centre of the bulge—filled up with strong pickle made from clean salt—and bunged; and they are then ready for inspection, official branding, and shipment to any place out of Europe.

Herrings are called sea sticks when they are shipped off soon after being taken and cured, so as to be first in the market for early consumption, and so to obtain a high price. When barrels containing sea stick herrings are cured on board of vessels cleared out for the fishery, or shipped to be carried to other stations, if the lower tiers are not carefully stowed, and the barrels well hooped and tightened, they are apt to lose the pickle, and if kept for any length of time in this state, they will be found on landing to be gilded and tainted. Sufficient attention and care will prevent this, and if it be properly guarded against, the cure of the herrings will be improved by the voyage, as they will be free from undue pressure, and as they will be found when opened to be well flooded with pickle. Whether the barrels of herrings are prepared for the official brand of the Board of British Fisheries or not, they should be kept constantly full of pickle, and where a leak appears, the barrel should be made tight, or the fish should be taken from it and repacked into a sufficient barrel. Barrels should be rolled half round weekly until shipment. Herrings must have been cured for fifteen days before the official brand can be applied for. If the curer wishes to have the brand, he must give the officer notice, stating that it is his intention at such a time and place to have so many barrels of herrings branded—maties or full fish—as the case may be, and as a

matter of course the officer attends. In the first place, he sees that the owner's name, with the place where and the year when cured, are branded on the barrels, all of which should be done prior to the officer's appearance. The officer having taken the required declaration of the curer, and gauged the barrels, each of which ought to be of a size capable of containing 32 gallons English wine measure, he proceeds to examine the casks and herrings, causing so many thereof to be opened for his inspection, taking out the heads and the bottoms of the alternate barrels respectively, so as to satisfy himself that the herrings are in all parts of the barrels perfectly what they ought to be, before he proceeds to apply the brand to them.

A cooper should be in constant attendance on board of every vessel during the time herrings are shipping, to replace hoops, chimes, or any other damage the barrels may have sustained by cartage, and to nail the chime hoops, if not previously done. The master of every vessel should be bound to use slings, and not crane hooks, for hoisting the barrels on board, and to stow every barrel bung upwards, without the use of a crow-bar.

The superiority of Dutch cured herrings arises chiefly from scrupulous attention being given to the different directions which have been detailed in this Treatise, and in a great degree also to Lisbon or Saint Ube's salt only, being used in their cure, as well as to their being packed into oak barrels alone, whilst ours are cured with Liverpool salt, and packed into barrels made of birch or alder.

As it is extremely desirable, and very much for the interest of fishermen, and all parties concerned in the herring fisheries, that the practice of taking herring fry, or undersized herrings, should be put an end to, each fisherman should hold it to be his duty to aid the Board of British Fisheries in stopping it. It is chiefly under the pretence of taking sprats or garvies that this destructive practice is pursued. It is therefore important that the distinguishing marks of the young herring, and the garvie or sprat, should be so generally known as to be rendered familiar to all. These have been described by Mr. James Wilson, of Woodville, the well known naturalist, in a communication made to the Secretary of the Board, from which the following is extracted:—

"1st. The first character to which I would direct your attention, is one which is so distinguishable by touch as well as sight, that it would be quite easy by means of it to divide into two separate portions the largest and most intermingled mass of these fishes, even in total darkness. I refer to the jagged or spiney edging which prevails along the lower outline of the sprat or garvie, almost all the way from throat to tail. This character is scarcely at all perceptible in the true herring. It is slightly developed in the fry, but soon disappears. It seems never absent in the garvie, but grows with its growth, and presents so stiff a toothing along the abdominal line, that if a fish is held not very tightly by the sides between the finger and thumb, and then a finger of the other hand is pressed along that under line from tail to throat, the projections will present so much resistance that the fish itself will be moved forwards.

"2nd. The eye of the herring is proportionally larger than that of the garvie, so that if you place a young herring beside a garvie

of greater size, its eye will nevertheless be larger than that of the garvie, and if the fishes are themselves of the same size, the difference of the eye will be of course the more perceptible.

"3rd. The third character is less obvious, till attention is called towards it, than the two preceding, but it is of equal importance, being not less constant and discriminative. If you observe the position of the dorsal or back fin of the herring, and suppose a line drawn perpendicularly downwards from its foremost portion where it enters the back, you will find that such line will invariably fall *in advance* of the ventral or belly fin beneath it. But if you draw a similar line from the front portion of a garvie's dorsal fin, it will invariably drop *behind* the insertion of the ventral fin.

"5th. The fourth character of distinction results from or is connected with the character just mentioned. There is a shorter space and fewer divisional lines between the pectoral or breast-fin, and the ventral fin in the garvie, than in the herring, so that the anterior portion of the body is less elongated.

"5th. The divisional plates, or segments, which occupy the lower space between the pectoral and ventral fins, are larger in size and fewer in number in the garvie than in the herring, there being about fifteen in the former, and about twenty in the latter. In conformity with this distinction in the outer aspect, the number of ribs is different, being considerably smaller in amount in the garvie than in the herring.

"Many other distinctions of a minuter kind are known to naturalists, but I think the preceding will suffice for the object you have in view, viz. that the difference between the sprat or garvie, and the fry of the true herring, may be ascertained with ease and accuracy by all who desire to do so."

By order of the Honorable the Commissioners.

THOS. DICK LAUDER,
Secretary Board of Fisheries.

Royal Institution, 26th June, 1845.

DIRECTIONS FOR CURING COD, LING, TUSK, AND HAKE.

Before noticing the cure of cod, ling, tusk, and hake, it may be right to mention, that where circumstances afford it, welled smacks should always be employed in the capture of the fish; for the fishermen can not only better preserve their bait in good condition in such craft, but the process of cleaning and salting the fish as they are caught can be carried on in them with the greatest convenience and advantage. But whether the fishing be so prosecuted, or by means of boats, it is essential never to allow the lines to remain so long that the fish may die upon them; and if boats are employed in their capture, they ought to return to the shore with the fish as soon as possible after they are caught; and the fish taken on different days ought never to be mixed together.

As it is an unquestionable fact, that two parcels of fish, which are of equal size and quality when taken, will, from the difference of the cure alone, obtain very different prices in the same market,

it is obvious, that not only the knowledge, but the practice, of the best mode of curing, must be of the most essential importance to the individual curers, as well as to the country from which the article of commerce is to be exported. And surely, when it is understood, that it is not extra expense, but only a little additional attention, that is necessary to produce this superiority of excellence in the fish cured, and that all the attention required may be easily given in the course of the operations of bleeding, cleaning, and drying, by the fishermen or their families,—it may be hoped, that curers or their superintendents will, for their own sakes, see that everything necessary be promptly and efficiently done, that may ensure a ready and profitable sale for their fish.

Perhaps the best process of cure is that practised in Yorkshire, where the object of the curers is to produce the finest fish for the Spanish market. As this affords by far the highest price for fish, it ought to be the study, as it is obviously the interest of all fish-curers, to bring their article of commerce to such a degree of perfection as may make sure of this market. That this must be well worthy their best endeavours, is best proved by the fact, that the curers at Eyemouth, by entering into direct correspondence with some of the principal Spanish merchants in London, are now offered for STAMPED COD what amounts to £3 a ton more than they got previously. Any curer, in any quarter, may have an opportunity of opening up such a direct correspondence, by application to Mr. Campbell, the chief officer of the Board of British Fisheries in London, who will be happy to inform applicants of the names of the firms of the different Spanish houses; but it must be observed, that no attempt to do so need be made unless the fish are of such quality as to merit the OFFICIAL STAMP, and that they shall have actually received it from the Fishery Officer of the district.

The moment a fish is taken off the hook it should be bled. This may be done by the person who is employed in taking it off the hook. The fish must then be headed, split up, and gutted,—in doing which, the sound should be carefully preserved for cure. The fish should then have the bone removed, care being taken that it shall be cut away to within twenty or twenty two joints of the tail, not directly across, but by the splitter pointing the knife towards the tail, and cutting the bone through two joints at once, in a sloping direction, so as to leave the appearance of the figure 8. This looks best, and it has this advantage, that the fish are not mangled, as they are apt to be when the bone is cut square through one joint. A slight incision should be also made along all the adhering part of the bone, to allow any remaining blood to escape, and the splitter should then drop his fish into clean water. The fish should then be thoroughly washed in the sea from all impurities; but where this cannot so immediately be accomplished, they should be dropped instantly into a large tub or vat full of sea water, where they should be carefully washed, and the water should be poured out of it when it gets foul, and fresh water supplied. Care must be taken to remove the black skin that adheres to the laps of the fish.

If these operations cannot all be performed on board the fishing craft immediately after capture, the fish, upon being taken off the hook, and immediately bled, which is absolutely essential, should be put into boxes, or some convenience, to keep them from exposure to the air, and from being trampled on, which would be extremely hurtful to them. But it may be again repeated, that the more of the above operations that can be performed immediately after capture the better. If the salting can be done on board the craft, it will be of the greatest advantage, as the sooner the fish are in salt after they are taken out of their native element, the greater is the chance that their cure will be successful. But, whether cured at sea or on shore, they ought in no case to be permitted to remain a longer period before being laid in salt than forty eight hours.

Some curers think, that instead of laying the fish in salt immediately after they are washed, they ought to be left to soak in water for twelve hours, or allowed to remain in a heap for the same period, before being salted. This has been done by many, under the impression that it will make the fish, when cured in pickle, appear thick and plump at market, and because the coating of slime found on the skin, when the fish come to be repacked or dried, thus becomes thicker and easier removed, than if the fish were salted from the washer's hand. But the fact is, that the swelling of the fish, and the thick coating of slime, indicate tainting, and it is therefore obvious that when fish remain without salt for twelve hours, the pickle will just so much the sooner become sour, so that the fish must be thereby injured. Herrings, though a richer fish than cod, are never soaked in water before salting, or allowed to remain for hours without salt after being gutted; the reverse is the universal practice. In the same manner, therefore, the sooner that cod, ling, tusk, or hake, can be salted after being thoroughly washed, the better will the cure and the quality be, and the less salt will be required. The salting should always be carried on in vats, tubs, or troughs, which should have covers. But whether the fish are to be so cured, or by that very inferior mode called BULK, they must be regularly laid in layers on their backs, one over the other, each layer being carefully spread over with a sufficient quantity of salt, 45 or 50 pounds of Liverpool salt per hundred weight of dried fish being about sufficient. Where this quantity can not be given, a day or two longer in salt may be required; and if salted in bulk, they will certainly require to remain a few days longer. Over-salting is frequently practised to increase the weight of fish, but nothing is more fallacious,—not only is the sap thus extracted, and the fish made lighter, but as the drying advances, they become encrusted with salt, which falls off at every handling, whilst the fish are so much deteriorated, as to be rejected as salt-burned, or taken at a very reduced price. In Yorkshire, where the mode of cure is such as to produce the most perfect article, the whole of the fish are salted in tubs or vats, three days being generally allowed them to remain in salt, and one ton of salt is allowed to cure three tons of fish,—but if the fish are large, more salt will be required than if they are smaller. This is a difficult matter to manage where the climate is damp, for if the season happens to be wet, and the fish do not receive

a sufficient quantity of salt, they will soon get mited. The knowledge of their having taken in a sufficient quantity of salt, so as to be enough cured in that respect, whether they are yet too soft, must be obtained by the grip of the hand of an experienced curer, before they are taken out of the pickle. If the fish be salted when fresh off the hook, they will take in no more salt than will perfectly cure them, however much may be given them; but if they are not fresh, by giving them too much salt they will get salt-burned.

After the fish are drawn from the vats, they should be well washed, and the pickle brushed out in the sea, or in sea water, and then they must be built up in a long pile on a stony beach, taking care that each fish is placed in a sloping direction, that is to say, with its head higher than its tail, so as to allow the salt water to be well dripped out of them. They may remain in this state for a day or two before they are laid out for the purpose of drying.

By far the best mode of drying the fish, is that practised in Yorkshire, and all fish-curers are earnestly recommended to adopt it, as nothing will so certainly tend to ensure their fish taking in the Spanish market, which will amply repay them for any trifling additional expense to which they may be put at first by making proper provision for it. The Yorkshire curers use flakes of wood, raised on posts three feet high, of such length as may be found most convenient, and about four feet wide. These are constructed at top with a platform of cross bars, placed six inches asunder, on which the fish are to be laid. The greatest possible advantage is derived from these flakes, and it is the earnest desire of the Board of Fisheries to see them brought into universal use among fish-curers, as they are far superior to any stony beach whatsoever, howsoever favourable for the purpose. The great advantage of the flake is, that it preserves the fish clean, and owing to the current of air passing underneath, the drying process goes on simultaneously below as well as above; and it prevents all chance of the fish being sunburnt, blistered, or scalded, when first laid out, as frequently happens when they are placed on a hot stony beach in a warm day. But when a stony beach is to be used, the greatest care should be taken not to lay the fish down when the stones are too warm from the heat of the sun, otherwise they will certainly get sunburnt, and no subsequent care will be successful in curing them properly. In all cases, whether the flake or the beach be used, great care must be taken not to expose the fish to a powerful sun for the first few days, and that they be not dried too hastily, otherwise they will heat, become brittle, and loose from the skin, and appear as half roasted, and so be unsaleable. At first they should be laid on their backs; but towards night they should be laid back upwards, in small heaps or clamps, which ought to be increased in size as the fish gets harder; and, during the process of drying, the fish may be laid with their back or belly upwards alternately, as occasion may point out. As they acquire firmness, frequent turning is advantageous, and as the heaps become enlarged, stones or weights may be placed on them to facilitate pressing, which imparts to them a smooth and compact surface. When the fish are about half dried or so, it will

then be easy to tell whether they have got too much salt, and if so, the skin side should be laid up to the sun during the heat of the day for future drying, which will draw the salt from the surface of the fish side, and tend to make them appear a fine greenish colour. When the fish are gathered together in heaps in the evening, they should be carefully covered with matting or canvas during the night, as well as when damp weather prevents their being laid out. After a fortnight's drying, the fish should be put into a pack, or steeple, for the purpose of sweating, and they ought to be allowed to remain in that state for twelve days, carefully covered, after which they should be laid out to dry for a week; and then after sweating them a second time for four or six days, two or three more days of drying should be sufficient to complete them. But of course this must all depend on the state of the weather; and, according as that may be favourable or otherwise, the whole time employed in curing them may average from six to eight weeks. The pining and sweating of the fish is a most important part of the cure, and must be extremely well attended to, for if not properly sweated before they are housed, they will soon get mited, slimed, discoloured, and unsaleable. Fish prepared for the Spanish market require to be highly salted, quite transparent, and of a pure greenish colour, and very hard dried. After the fish are properly sweated, pined, and finished, they should be housed, but never in a warm day, or warm from the beach or flakes; they should always be collected in a cool state—either in the evening or morning—and with this precaution, and always provided that they have been properly pined and sweated, they will keep for a long time without being slimed or mited, care being taken to have the air excluded from them by proper covers, and by their being put into a tight cellar or warehouse. Many of the Yorkshire curers, when packing their fish in their stores, after being fully dried, lay a small quantity of clean straw between each layer of fish. This tends to draw the surplus salt from the surface of the fish, prevents them from getting slimy or mited, and very much improves their colour.

When fish caught in winter are to remain in salt until the drying season arrives, a little additional salt is necessary, and if laid in bulk, they should be carefully covered with matting or canvas to ensure cleanliness, and to prevent them from getting discoloured.

When the fish are to be cured in pickle, they may remain the same time salted in vats, before being repacked into barrels. On removal they should be carefully scrubbed and washed with clean water, and the slime well scraped off with a knife from the skin and back fins. The fish may be then repacked in barrels, with clean salt, and prepared for market. The number of fish in each barrel should be scratched on the side of it. For curing and repacking for the home market, 84 lbs. of salt per barrel is sufficient, but 112 lbs. will be required for fish intended for exportation.

By order of the Honorable the Commissioners.

THOMAS DICK LAUDER.

Secretary to the Board of British Fisheries.

Royal Institution, 26th June, 1845.

DIRECTIONS FOR CURING COD, LING, TUSK, AND HAKE,
WET, OR IN PICKLE.

This is a mode of curing which produces a valuable article of merchandise—very useful in household economy, and its wider extension becomes a most desirable object in promoting the interests of the British Fisheries. The most approved mode of conducting this description of cure is as follows:—

The fish having been properly split, scrubbed, and washed, should be salted in large tubs, or square boxes, capable of retaining the pickle, and properly covered from the sun and rain. After being forty eight hours in salt, they may be washed in clean fresh water, and the skin of each fish must be well scrubbed with a small heather scrubber, or a hand brush, which is sometimes used for the purpose. Having been perfectly cleared of slime, and well rinsed in cold water, they are laid in a heap and allowed to drip, and are then repacked into barrels with clean salt. In performing this process, the skin side of the fish is kept next to the bottom of the barrel, and they are regularly packed up with a proper quantity of salt on each layer, keeping them as flat as possible, and close to the sides of the barrel. The fish should be collected, and assorted into three or four sizes, and each size should be packed in different barrels.

If the fish have been firmly packed, and the barrels allowed to stand on end one night properly covered before being tightened, it will not be necessary to jump upon them. The uppermost or top fish in the barrel is then placed with the skin upwards, and salt is strewed on it. The barrels must then be flagged and tightened,—laid down—tiered—bored on the sides—and filled up with pickle, which should always be made from clean salt, and it should be skimmed when necessary, as any impurity in the pickle injures the whiteness of the fish.

The number and kind of fish contained in each barrel must then be scratched on the side, with the date of repacking, and if the casks and fish are found on inspection to be in all respects agreeable to law, and to the Board's regulations, the barrels may then be officially branded.

By order of the Honorable the Commissioners.

THOMAS DICK LAUDER,
Sec'y. Board of Fisheries.

Royal Institution, 26th June, 1845.

No. 25.

REPORT OF THE HON. J. H. GRAY,
ON THE OPERATION OF THE FISHERY LAWS IN CHARLOTTE COUNTY.*Saint John, December 31, 1851.*

SIR,—Having been appointed by Minute of Council, in conjunction with the Hon. Mr. Hazen, a Committee to report upon the operation of the Fishery Laws in the County of Charlotte, I have to state, that it being inconvenient for Mr. Hazen to visit that County, I proceeded thither accompanied by M. H. Perley, Esq., who was invited to assist in making the necessary inquiries.

I have now the honor to report, that I reached Welch Pool on the 13th November last, on which day the first "Fish Show" was held there by the Campo Bello Fishing Society.

The Show was a very fair one; the samples of fish exhibited, both dry and pickled, were of excellent quality, and generally well cured. The greatest deficiency appeared in the dried cod, many of which were not well split. Sufficient care had not been taken in removing the back bone, and consequently some blood remained, discolouring and injuring the quality of the fish. The attention of the fishermen present was directed to this defect, and it was promised that more perfect fish should be produced at the next Show.

The pickled and smoked herrings were particularly fine, and very well cured.

A return of the several descriptions of fish exhibited, and of the premiums awarded to the successful exhibitors, is appended to this Report, marked No. 1.

After the Show, the fishermen met me at the School House, where an interesting discussion took place, on various propositions and questions which I submitted to them.

WEIRS.

With regard to the herring weirs at Campo Bello, it was stated that for one weir on the British side of the Quoddy River, so called, there were at least five on the American side; and that any regulation, to be fully effective, should be equally in force on both sides of the Boundary.

It was also stated by the fishermen, that spawning herrings were not taken in the weirs, or if so, but very rarely.

It was likewise stated, that when herrings were taken by "driving" with torch-light, as many small herrings were destroyed, as are now destroyed by the weirs.

Upon the question whether the weirs were, or were not, injurious to the fisheries, the meeting divided in opinion; about one-third of those present considering them injurious.

One fisherman who spoke in opposition to the weirs, (Josiah Patterson,) said it would be of no use to put down the weirs on the shores of Campo Bello, unless those on the American side were put down also. He admitted that the weirs of Campo Bello were very useful to the fishermen, as from them they procured their supply of bait for the line-fishing. He had seen a great many herrings destroyed by "driving;" but of late years very few had

been destroyed by the weirs, although many were destroyed when the weirs were first built, from the want of proper attendance. He had signed a petition against the weirs some years ago, but that was on account of their taking young pollack, few of which they now take.

It was admitted by those who did not consider the weirs injurious, that some regulation was necessary, with reference to the size of gates in weirs, and the material of which such gates should be composed.

Much depends on the situation of the weir, as to the size of the gate required. If a weir is dry only at low water, and is placed where there is a strong current setting, a small gate only will be necessary, if opened in sufficient tide-time for the escape of the fish. But when a weir is built upon a long flat, or becomes dry at half-tide, a much larger gate is required.

It was suggested by the meeting, that the size of the gate should be regulated by the Fishery Wardens, according to the extent and position of each weir; but that no gate should be less than nine feet in width, and should be closed with net, or such other material as the Warden for the district should direct.

Complaints were made that in several situations, but more especially at Grand Manan, weirs were placed in passages between small islands, and in narrow channels, where they not only obstruct navigation, but also prevented the fish from resorting to their usual in-shore feeding grounds, to the injury of the fisheries generally. It was proposed to remedy this grievance by giving enlarged powers to the Fishery Wardens, so that they might without delay cause the removal of weirs which thus became a public nuisance, under proper restrictions, and the necessary safeguards for the protection of private rights.

GURRY GROUNDS.

The injury to the Fisheries, especially near Grand Manan, from throwing over upon the fishing grounds the heads, bones, and other offal of the cod and scale fish, technically termed "gurry," was represented, and the necessity of establishing proper places for depositing such offal, usually called "gurry-grounds," was strongly urged.

It appears that the Act 58 G. 3, cap. 2, was passed expressly for the purpose of preventing this mode of injuring the Fisheries; and it was made perpetual by the Act 3 G. 4, cap. 2. But both these Acts were repealed by the Act 13 V. cap. 30, which confers on the General Sessions of the Peace, the power of making the necessary regulations.

The General Sessions of Charlotte not having made any regulations whatever in relation to the Fisheries, there is at present no means of preventing the throwing over of "gurry" in improper places, where it causes very serious injury. It was proposed, that this evil should be remedied by Legislative enactment, giving power to the Wardens and Overseers of Fisheries to mark out and establish "gurry grounds" in proper situations.

It was urged, that these "gurry grounds" when established, should be buoyed out, or otherwise distinctly defined, and that great care should be taken in their selection, so that they should not

interfere with the in-shore Fisheries, and yet afford every convenience to fishing boats and vessels. It was said, that unless a stringent law on this subject was enacted, and vigorously enforced, the in-shore fisheries would in a short time be wholly destroyed.

It was subsequently stated to me, that the decay of the Fisheries on the shores of the New England States, once so plentiful, was attributed in a great degree to the want of a proper "gurry" law, and its vigorous enforcement. Intelligent American fishermen say, that the want of fitting "gurry-grounds," combined with the absence of laws for the protection of fish during the spawning season, have combined to injure the New England Coast Fisheries very seriously, and in many localities have destroyed them altogether.

PROTECTION OF THE SPAWNING GROUND.

The fishermen at the meeting agreed in opinion, that it was necessary, as well for the preservation of the herring fishery, as of the line fisheries, that the spawning ground at the Southern Head of Grand Manan should be strictly preserved during the spawning season, say from 15th July to 15th October. A large majority of those present were in favour of extending the limits of the spawning ground as defined in the Fishery Act of last Session, so as to include the whole of Bradford's Cove; and Mr. John Alexander, the Fishery Warden who was stationed at the Southern Head last season, was also of opinion that the "close time" should commence on the first day of July, instead of the fifteenth, as now provided by law.

That the protection of the spawning ground at the Southern Head during the past season only, has been already beneficial to the fisheries generally, can scarcely be doubted. In the Report of Capt. A. F. Kynaston, of H. M. Sloop "Persian," dated 4th September last, it is stated that one of the "Persian's" boats had been placed at the Southern Head, at the disposal of Mr. M'Laughlin, the Overseer of Fisheries residing there; and that the good effects of preserving the spawning ground was apparent, even early in September. At that time vessels had good cod fishing within two or three miles of the land, when three weeks previously they had sorry fishing at the distance of seven or eight miles. Capt. Kynaston says, it was evident to him that the preservation of the spawning ground, and a slight check upon the weir system, would form "the sheet-anchor of the fisheries." He strongly recommends an extension of the limits of the ground to be preserved to Pandora Head, so as to include the whole of Bradford's Cove.

Since the close of the spawning season and up to the present moment, the cod fishing at the Southern Head, close in shore, has been excellent, where no such fishery has existed for a number of years. Great quantities of young herrings from three to six inches in length, have been recently observed near the shores of Grand Manan, and around the small islands in its vicinity. It has been certified to me by seven respectable fishermen of Grand Manan, who are persons of much intelligence and observation, that these fry are the young fish produced from spawn deposited during the past season. The original certificate stating this fact, dated the 18th instant, is appended to this Report, marked No. 2.

Capt. Kynaston recommends, as do also the Fishery Wardens, that boats sufficiently manned should be stationed at Grand Manan during the fishing season to protect the spawning ground, and enforce any enactments or regulations which may be made relative to "gurry grounds;" as also to prevent the weirs from becoming a nuisance, by obstructing the navigation, or being improperly fished. These boats would also prevent American fishing vessels from intruding upon the in-shore fishing grounds, where they have no right, and compel them to keep at a proper distance, by which the Provincial fisherman would be spared some annoyance, and be much benefited.

The injuries which flow from the destruction of herrings on their spawning ground has excited much observation in Scotland, and attracted the earnest attention of the British Fishery Board for some years past. The great spawning ground of the herrings which frequent the Clyde, and that celebrated fishing place Loch Fyne, is upon a bank opposite to Ballantrae, in Ayrshire. This bank lies about three miles off the shore; it is about a mile and a half in length, and three quarters of a mile in breadth, with nine fathoms water over it. There the herrings, during the spawning season, congregate in incalculable numbers; and the spawn lies on this bank (precisely as at the Southern Head of Grand Manan,) to a very great depth, so that the smallest net ropes which are let down, are hauled up of the apparent thickness of cables, from the immense quantity of spawn that adheres to them. The Commissioners of the British Fisheries say, in their Report to Parliament for 1847, that the herrings taken during the spawning time are in the worst possible condition as human food, and much more likely to be prejudicial and to spread disease, than to be nutritious. It is quite impossible, the Commissioners say, to calculate the extent of loss arising to the Clyde and Loch Fyne fisheries, by the improper mode of fishing there pursued, which must bring comparative scarcity on the really sound, productive, and wholesome fisheries, carried on at the proper season in the Clyde and Loch Fyne.

In their report to Parliament for 1848, the Commissioners again allude to the destruction of spawning herrings on the banks of Ballantrae. They state, that they had received numerous petitions from fish curers, and fishermen, deeply interested in the fisheries of the west coast of Scotland, complaining of the reckless destruction of spawn, and the fry of herrings, by which myriads of these useful fish are annually destroyed. The banks of Ballantrae are stated to be well known as the nurseries of the herrings visiting the western coast, and if the indiscriminate destruction which takes place there, is allowed to continue, the Commissioners say the fishermen on that coast will be ultimately ruined, and many thousands of industrious fishermen, around the various Lochs, reduced to poverty, while the immense capital invested in boats and materials would be rendered wholly unproductive.

Like the banks of Ballantrae, the spawning ground at the Southern Head of Grand Manan, would seem to be the great nursery of herrings at the entrance to the Bay of Fundy, and perhaps in the Bay generally. The destruction there of the spawning

herrings, and the spawn itself, will not only destroy the herring fishery, but also be of the greatest injury to the valuable line fisheries of the Bay of Fundy, which so greatly depend on a regular and full supply of young herrings, and from the want of which, those fisheries have of late years suffered so seriously.

THE POWER OF FISHERY WARDENS.

Whatever enactments may be made, or regulations established for the protection and preservation of the fisheries, should be enforced by prompt and summary proceedings. At Grand Manan there are not a sufficient number of Magistrates to enforce any Fishery Law; and in other localities, Magistrates reside at such distances from the fisheries, that before application can be made to them offenders wholly escape. In revising the Fishery Laws therefore, it may be expedient to give greater power to the Fishery Wardens, for the enforcement of fines and penalties; and perhaps under special circumstances, or in particular localities, to invest them with powers and authority of a Justice of the Peace.

MILL DAMS.

In the Fishery Act of last Session it was provided that in every dam then built, or thereafter to be built or placed across any of the various rivers and streams of the Province, a proper and suitable fishway should be made and kept, and proprietors were allowed until the first day of October last to make the required fishways.

It has been suggested to me that it is not necessary to have fishways in dams upon all streams without exception, as there are many streams which fish did not ascend before the dams were built, and the current was wholly unobstructed. A modification of this enactment might therefore take place, requiring fishways only upon such streams as fish were accustomed to ascend, and did ascend, prior to dams being placed across them.

GENERAL FISHERY LAW.

In the Fishery Law of last year some inaccuracies and omissions have been discovered, which render several of its provisions almost inoperative.

The Act 13th Victoria, cap. 30, for consolidating the Laws relating to Counties, Towns and Parishes, repealed a number of local and general Acts relating to the fisheries, and conferred the power of making new regulations upon the General Sessions of the Peace in the several Counties. So far as I have been able to learn, no fishery regulations have been made in any County of the Province, since the passing of the Act which repealed so many previously existing laws, and various useful and necessary regulations (as in the case of "gurry-grounds,) have ceased to exist. It would therefore be exceedingly desirable that a Fishery Law, taking up all matters of general interest, and making the necessary provision in every case, should be carefully prepared, and submitted to the Legislature at its approaching Session.

INSPECTION LAW.

It is quite certain that the cure of fish will not be rendered so perfect as it ought to be, until efficient persons are appointed, under Legislative authority, to inspect all fish intended either for home consumption, or for exportation.

The bill introduced last Session, for a complete system of inspecting dry, pickled, and smoked fish, throughout the Province, with some alteration in details, will probably be found to answer the purpose. The leading feature of this bill, as printed, appears to have been generally approved; and with some alterations and modifications, in matters of detail, may be rendered a most useful and necessary measure.

I have ascertained that the size of boxes for smoked herrings should be the same as those required by law in the State of Maine, for greater mercantile convenience in exportation.

The sizes of barrels for the several descriptions of pickled fish, differ in various localities in this Province, and are also different in size from those used in Nova Scotia. On this point, information can be obtained from practical fishermen in different parts of the Province, as to the sizes which would best suit the various fisheries, and tend to increase the sale of fish in foreign markets.

It has been suggested to me from Charlotte County, that any general law for the inspection of fish intended for exportation, which required that the packages should be branded, should not pass, as it would prevent the illicit exportation of fish from that County to the United States, by rendering them easily identified there as smuggled goods. But no consideration of this kind should prevent the passage of a general measure, which would greatly tend to raise the character of New Brunswick cured fish, and enhance their value in every foreign market, besides rendering them greatly superior for home consumption.

VALUE OF THE FISHERIES IN CHARLOTTE COUNTY.

I am indebted to John Alexander, one of the Fishery Wardens, for the following statements of the quantities and value of fish, taken in one season, by the fishermen of Campo Bello, in decked vessels, boats, and fish-weirs, owned by them. This estimate is made upon the quantity actually taken in the year 1850, corrected by the catch of 1851, so far as it had advanced up to November:—

1,522 quintals Codfish,	@ 13s. per quintal,	£989 6 0
6,169 do Pollack,	7s. 6d. do	2,313 7 6
223 barrels Mackerel,	35s. per barrel,	390 5 0
679 do Pickled Cod, &c.	10s. do	339 10 0
4,577 do Herrings,	12s. 6d. do	2,860 12 6
5,526 gallons Fish Oil,	2s. 6d. per gallon,	690 15 0
18,511 bxs. first quality Smoked Herrings,	2s. 3d. per box,	2,082 9 9
6,591 do No. 1 and No. 2 do	1s. 3d. per box,	411 18 0

Total value Campo Bello fisheries, 1851, £10,078 4 6

The information upon which the foregoing statement is founded was collected by John Furmer, Esquire, while engaged in taking the Census of Campo Bello, during the past season, and I am assured that it may be relied upon as correct.

Mr. Alexander has also furnished me with a statement, made up from information collected by himself, of the quantities and value of the products of the fisheries caught during the season of 1851, by the fishermen of Grand Manan, in decked vessels, boats, and fish-weirs, owned by themselves, as follows:—

3,900 quintals dried Codfish,	@ 12s. 6d. ♀ quintal,	£2,437 10 0
7,024 do " Pollack,	7s. 6d. do	2,634 0 0
5,356 do " Hake,	6s. 3d. do	1,673 15 0
66 barrels Mackerel,	32s. 6d. ♀ barrel,	107 5 0
250 do pickled Cod, &c.	10s. do	125 0 0
2,216 do Herrings,	13s. 9d. do	1,523 10 0
15,069 gallons Oil,	2s. 6d. ♀ gallon,	1,883 12 6
32,000 boxes Smoked Herrings, scaled,	2s. 3d. ♀ box,	3,600 0 0
6,000 do do No. 1 and 2,	1s. 3d. do	375 0 0

Total value, Grand Manan fisheries, 1851, £14,359 12 6

It has been stated to me that the quantities and value of the products of the fisheries at West Isles in 1851, did not differ materially from those of 1850, as stated in the Report of Mr. Perley on the Fisheries of the Bay of Fundy; they were thus summed up:—

20,800 quintals Pollack and Hake,	£5,720 0 0
3,750 do. Cod,	2,109 7 6
3,500 barrels Herrings,	2,187 10 0
800 do. pickled Cod and Haddock,	400 0 0
450 do. Oil,	1,462 10 0
5,000 boxes smoked herrings,	375 0 0

Estimated value, West Isles Fisheries, 1851, £12,254 7 6

The value of the products of the sea fisheries in Charlotte County in 1851, exclusive of the shore fisheries from L'Etite passage to Point Lepreau, of which no account has been taken, may be thus summed up:—

Grand Manan,	£14,359 12 6
Campo Bello,	10,078 4 6
West Isles,	12,254 7 6

Total, £36,692 4 6

But besides the fisheries prosecuted to the above extent by resident fishermen, the fisheries are also prosecuted in the vicinity of Grand Manan by fishing vessels from Nova Scotia, and from the United States. During the past season Mr. Alexander, while stationed at Grand Manan, was enabled to collect some information, from which he has made up the following estimate as an approximation to the number of vessels not belonging to New Brunswick, their tonnage, and the quantities and value of the fish caught by their crews, during the season of 1851:—

28 vessels averaging 55 tons each,	1546 tons.
15 " " 30 " "	450 "
50 " " 20 " "	1000 "
36 " " 15 " "	540 "

119 vessels, amounting to 3,536 tons.

First fare of 119 vessels, 23,288 quintals Codfish @ 12s. 6d.	£17,680 0 0
Second fare of " " 23,288 " Pollack @ 7s. 6d.	10,608 0 0
" " " 940 barrels of Oil, @ 75s.	3,525 0 0
	£31,813 0 0

Mr. Alexander states, that the number of vessels belonging to Grand Manan is about thirty, of all sizes; and he has learned from undoubted authority, that no less than one hundred and seventy eight sail of fishing vessels have been counted fishing on the "rippings" at one time during the past season. He says it is well known, that eighteen fishing vessels from the small Town of Trenton, in Maine, the largest seventy four tons, and the smallest thirty three tons, make two fares in the vicinity of Grand Manan every season.

The foregoing approximation is believed to be rather under stated than otherwise; and it will be observed, that the value of fish caught by other than New Brunswick vessels near Grand Manan, is nearly equal to the whole value of the Island Fisheries in the County of Charlotte; and leads to the belief that practical measures may be devised for increasing the quantities and value of the fish caught by resident fishermen.

FISHING SOCIETIES.

A resolution of appropriation passed at the last session of the Legislature, placing five hundred pounds at the disposal of His Excellency the Lieutenant Governor, for the encouragement of the fisheries—"the said money to be advanced in the same way, and in like proportion as the money at present granted for the encouragement of Agricultural Societies." In consequence of this appropriation, no less than three Fishery Societies, were established in the County of Charlotte; one at Grand Manan, another at Campo Bello, and the third at West Isles. The members of each of these Societies subscribed and paid into their Treasurer, a certain sum, not less than twenty five pounds, and thereupon became entitled to a Warrant on the Treasury, for three times the amount so paid in, no Societies having been formed in any other part of the Province.

These Fishery Societies have each adopted a constitution for its guidance, and each has had a "Fishing Show" the past season, at which premiums were awarded for the best cured fish, as at Campo Bello. The fishermen have by means of these Societies been induced to meet together and discuss in a friendly spirit, and business like manner, various matters of deep interest in their calling, with the view of devising measures for the more successful prosecution of the fisheries generally, as also improved modes of curing all descriptions of fish. A bond of union may thus be said to have been established among the resident fishermen, in the several localities mentioned; and they already begin to understand, that much may be effected for the advancement of the fisheries by combined efforts, and by reliance upon themselves.

It would be desirable therefore, that the Societies already established should be encouraged to proceed with the useful measures they have already commenced, and be induced to extend their exertions in the most beneficial direction; and also, that the formation of Societies in other sections of the Province should be promoted by all legitimate means, in order that the fishermen every where

should learn the benefits of self-reliance, in all local matters which may be best controlled and regulated by themselves.

I have the honor, &c.

J. H. GRAY.

Hon. J. R. Partelow, Provincial Secretary.

Enclosure No. 1.

CAMPO BELLO FISH SHOW.

The first Annual Show of the Campo Bello Fishing Society, was held at the Government Store, Welchpool, on Tuesday the 18th day of November, 1851, when Premiums were awarded to the following persons, for the undermentioned kinds of fish:—

For 1st best dry Cod Fish,	D. Ludlow,	£2 10 0
2nd do.	N. Ludlow,	2 5 0
3rd do.	Jer. Wilson,	2 0 0
For 1st best dry Pollack,	O. Brown,	2 5 0
2nd do.	J. Patterson,	2 0 0
3rd do.	G. Young,	1 15 0
For 1st best dry Hake,	W. Ludlow,	1 5 0
2nd do.	Wm. Tucker,	1 2 6
3rd do.	O. Ludlow,	1 0 0
For 1st best dry Haddock,	O. Ludlow,	1 5 0
For 1st best barrel Mackerel,	R. Beman,	1 10 0
2nd do.	J. M. Parker,	1 5 0
For 1st best Quoddy River Herring,	James Calder,	2 10 0
2nd do.	D. Mitchell,	2 5 0
For 1st best smoked Herring,	A. Flagg,	2 12 6
2nd do.	Price Flagg,	2 5 0
3rd do.	Thad. Stinson,	2 0 0
For best smoked Haddock,	A. Flagg,	0 17 6
For best 2 boxes Yarmouth Bloaters,	D. Mitchell,	0 15 0

Eleven brls. pickled Herring exhibited; the Judges could no. decide as to the best; and the Committee awarded to each competitor £1.

D. BENNETT, *Secretary.*

Enclosure No. 2.

WE, the subscribers, hereby certify, that there have been large shoals of herring fry playing along the shores this last fall; they are from three to six inches in length, and from our long knowledge of fish and the fisheries, we believe them to be the fry from the spawn of the herrings, deposited in this vicinity in the month of March last, and late in the season of this last spring and summer.

DANIEL McLAUGHLIN,
CHARLES D. WILCOX,
ROBERT F. RUSSELL,
GEORGE HARVEY,
WARREN INGERSOLL,
WILLIAM HARRINGTON,
JOEL INGERSOLL.

Grand Manan, N. B., December 18, 1851.

(No. 26.)

FISHERY ACTS.

ACT 14 VICTORIA, Chap. 31,

For the protection and regulation of the Sea and River Fisheries of this Province.

Passed 30th April 1851.

1. Be it enacted by the Lieutenant Governor, Legislative Council and Assembly, That no Salmon shall be taken in any manner whatever on the Coasts of this Province, or in any of the Bays, Rivers or Harbours of the same, where the Tide ebbs and flows, after the thirty first day of August in any year, nor shall any Salmon be taken by any device whatever in any of the fresh water Rivers or Streams of this Province after the said thirty first day of August in any year, under the penalty of ten shillings for each and every Salmon taken in any year after the several days mentioned and before the first day of April in the succeeding year.

2. And be it enacted, That whoever shall take any Salmon in this Province after sunset on Saturday night, and before sunrise on Monday morning, shall for each and every Salmon so taken, forfeit and pay the sum of ten shillings.

3. And be it enacted, That whoever shall take any Salmon by spearing either in the day time or by spearing with torch light, at any time between the thirty first day of August and the first day of April, or in any place, shall forfeit and pay for every Salmon so taken the sum of ten shillings, and shall further be liable to be imprisoned for any period not exceeding two days, at the discretion of the Magistrate before whom such penalty shall be recovered; and whoever shall sell or offer for sale, or shall between the thirty first day of August in any year, and the first day of April in the next succeeding year, purchase any Salmon caught or taken by spearing, shall forfeit and pay the sum of ten shillings for each Salmon so sold or offered or exposed for sale, or purchased as aforesaid.

4. 'And for the better regulation of the Sea Fisheries of this Province,' Be it enacted, That the Lieutenant Governor in Council may make rules and regulations for the management and protection of all Fisheries on the Sea Coast of this Province, or around any Island laying off the said Sea Coast, between low water mark and three marine miles of such Coast or Island; and all Orders made by the Lieutenant Governor in Council, and published in the Royal Gazette, shall have the like force and effect as if contained in this Act; provided always, that such Orders in Council shall not impose any greater penalty than fifteen pounds, or any longer term of imprisonment than ten days.

5. And be it enacted, That the Lieutenant Governor in Council may appoint Wardens of the Fisheries, not exceeding two in any County of this Province, whose duty it shall be to watch over and protect the Sea and River Fisheries, and to enforce or cause to be enforced all the provisions of the Acts of Assembly, the rules and regulations of the Justices in Sessions, or Municipal authorities,

or Orders in Council, with relation to such Fisheries ; which Wardens shall be subject to the directions of the Governor in Council, and liable to such penalties as may be imposed by Order in Council for misconduct or neglect of duty.

6. And be it enacted, That the Lieutenant Governor in Council may grant leases or licences of occupation for Fishing Stations on the ungranted shores, beaches or islands of this Province, at fair and reasonable rents, such leases or licences of occupation not to be for any longer term or period than five years, and to terminate whenever the Fishing Station shall cease to be used for fishery purposes ; and no Fishing Station shall be allowed to occupy the whole of any locality where there is space for more than one such Station ; and in the event of several parties applying for the same Station, the lease of such Station shall be sold at public auction, after thirty days notice, the upset price being determined by the Lieutenant Governor in Council ; provided always, that nothing herein contained shall interfere with or be construed to affect the rights of parties in lands or privileges heretofore granted.

7. And be it enacted, That no Herrings whatsoever shall be taken or caught in any manner on the spawning ground at the Southern Head of Grand Manan between the fifteenth day of July and fifteenth day of October in any year, such spawning ground commencing at the eastern part of Seal Cove, at a place commonly known as Red Point, and thence extending along the Coast westerly, and around the Southern Head of Bradford's Cove, a distance of about five miles, and extending to the distance of one mile from the shore ; and all nets or engines used for catching Herrings on the said spawning ground, within the period above limited, shall be seized and forfeited ; and every person engaged in using the same shall be deemed guilty of a misdemeanor, and shall be arrested, prosecuted, and punished, as in other cases of misdemeanor.

8. And be it enacted, That all fines and penalties recoverable under and by virtue of any section of this Act, not exceeding fifteen pounds, shall and may be recovered before any two Justices of the Peace, with costs of prosecution, and beyond that sum, shall and may be recovered before any Court of competent jurisdiction, with costs of prosecution ; such penalty, when recovered, to be paid into the County Treasury, and to be appropriated one half to and for the Warden or Wardens who may have instituted proceedings for the recovery thereof, and the other half to and for the use of the said County.

9. And be it enacted, That nothing herein contained shall be construed to prevent the Warden or Wardens from being competent witnesses for the recovery of any penalties under this Act, for or by reason of their being entitled to any portion of the penalty so to be recovered.

10. And be it enacted, That the Wardens to be appointed under and by virtue of the sixth section of this Act, shall in addition to the proportion of any penalties recovered under and by virtue of the eighth section of this Act to which they may be entitled, shall be entitled to receive and demand of and from the Provincial Govern-

ment, the sum of forty pounds for his services during the current year; provided always, that before any such sum shall be drawn from the public funds, it shall be certified to the Lieutenant Governor in Council that the County for which such Warden or Wardens has or have been appointed, has provided a similar sum for the payment of the said Warden or Wardens.

11. And be it enacted, That in every Dam now built or hereafter to be built or placed across the various Streams and Rivers in this Province, a proper and suitable Fishway shall be made and kept; provided that in those already erected, the proprietors thereof shall be allowed until the first day of October next to make the Fishway required in and by this Act.

12. And be it enacted, That no slabs or edgings, or other mill rubbish, sawdust excepted, shall be allowed or put, directly or indirectly, by any person or persons, in any of the Rivers or Streams of this Province.

13. And be it enacted, That whoever shall be convicted of any breach of the provisions of the eleventh and twelfth sections of this Act, shall be subject to the like pains and penalties as provided in and by the third section of this Act, and be recoverable as hereinbefore provided.—[*Repealed by Act of 1852, which follows.*]

14. And be it enacted, That any person or persons prosecuting or giving evidence on any prosecution for the recovery of any penalty or penalties under the provisions of this Act, who shall be guilty of wilful and corrupt false swearing on such prosecution, shall be deemed guilty of perjury, and on conviction thereof before any Court of competent jurisdiction, shall be liable to all the pains and penalties imposed by law upon persons guilty of perjury.

(No. 27.)

ACT 15 VICTORIA, Chap. 53,

In amendment of the Act for the protection and regulation of the Sea and River Fisheries of this Province.

Passed 7th April 1852.

Be it enacted by the Lieutenant Governor, Legislative Council and Assembly, as follows:—

1. The thirteenth section of an Act made and passed in the fourteenth year of the Reign of Her present Majesty, intituled *An Act for the protection and regulation of the Sea and River Fisheries of this Province*, is hereby repealed.

2. Whoever shall be convicted of any breach of the provisions of the eleventh and twelfth sections of the said recited Act shall forfeit and pay a sum not less than ten shillings and not exceeding fifteen pounds for each and every offence, at the discretion of the Justices of the Peace before whom the case may be tried, together with the costs of prosecution as provided in and by the eighth section of the said hereinbefore recited Act.

3. The streams and rivers of the Province to which fish have not at any time heretofore been in the habit of resorting shall be considered as exempt from the operation of the eleventh section of the said recited Act, and it shall be the duty of the Warden or Wardens within whose jurisdiction such streams and rivers shall fall, to determine upon such exemption.

4. The Justices of the Peace for any County or Counties to which any Warden or Wardens may have been appointed under the aforesaid Act, may at any General Sessions of the Peace, or at any Special Sessions of the Peace for that purpose convened, be and they are hereby authorized to make such rate and assessment upon the inhabitants of the said County or Counties as will raise the sum of forty pounds for each Warden appointed under the said Act, the same to be assessed, levied, collected and paid agreeably to any Acts now or hereafter to be in force for the assessing, collecting and levying County rates.

5. That angling for salmon shall be permitted until the fifteenth day of September, anything in the first section of the hereinbefore recited Act to the contrary notwithstanding.

No. 27

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